RX-3THBK

JVC

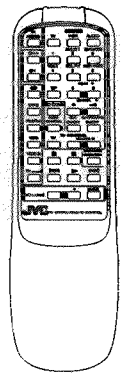
SERVICE MANUAL

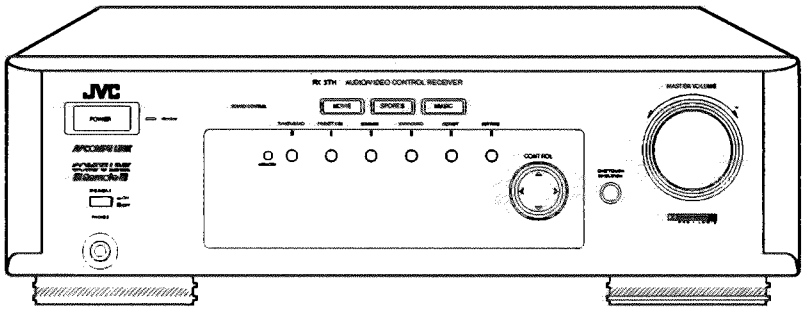
AUDIO/VIDEO CONTROL RECEIVER

RX-3THBK

Area Suffix

C	Canada
J	the U.S.A.
US	Singapore
UT	Taiwan
U	Other Areas





COMPU LINK Remote

AV COMPU LINK

Contents

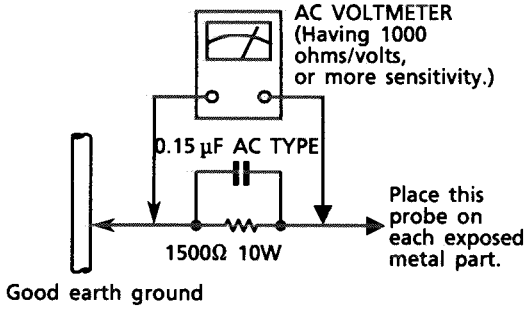
Safety Precautions 1-2
Instruction Book 1-3
Description of Major ICs 2-1
Internal Connection of Display 2-10
Disassembly Procedures 2-11
Adjustment Procedures 2-13
Block Diagrams 2-15
Printed Circuit Boards 2-16
Schematic Diagrams 2-21
Parts List 3-1

COPYRIGHT © 1997 VICTOR COMPANY OF JAPAN, LTD.

No. 20613
Mar. 1997

Safety Precautions

1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute repalcement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage currnet check (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.).
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500Ω 10 W resistor paralleled by a 0.15 µF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and meausre the AC voltage across the resistor.
     Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

Table of Contents

Parts Identification 2

Easy Set Up & Operations 3

Getting Started 5
- Before Installation 5
- Checking the Supplied Accessories 5
- Connecting the FM and AM Antennas 6
- Connecting the Speakers 7
- Connecting Audio/Video Components 8
- Connecting the Power Cord 10
- Putting Batteries in the Remote Control 10

Basic Operations 11
- Turning the Power On and Off 11
- Selecting the Source to Play 11
- Adjusting the Volume 12
- Outputting Sound through the Front Speakers 12
- Muting the Sound 12
- Recording a Source 12

Basic Settings 13
- Adjusting the Front Speaker Output Balance 13
- Listening at Low Volume (Loudness) 13
- Using the Sleep Timer 13
- Selecting the Center Speaker Size 14

One Touch Operation 15
- About the One Touch Operation 15
- Using the One Touch Operation 15

Receiving Radio Broadcasts 16
- Tuning in Stations Manually 16
- Using Preset Tuning 16
- Selecting the FM Reception Mode 18

Using the Preset SEA Modes 19
- Selecting Your Favorite SEA Mode 19

Using the Surround Processor 21
- Using JVC's Hall Surround 22
- Speaker Arrangements for Dolby Surround 24
- Preparing for Dolby Surround 25
- Using Dolby Surround 28

COMPU LINK Remote Control System 29

AV COMPU LINK Remote Control System 30

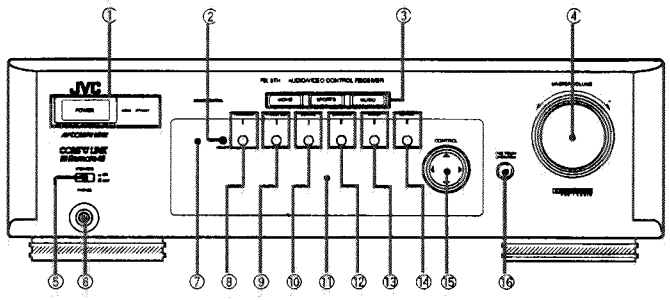
Operating Other Components 32

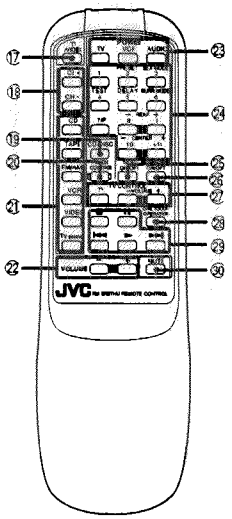
Troubleshooting 34

Specifications 35

Parts Identification

Become familiar with the buttons and controls on the receiver before use.





Refer to the pages in parentheses for details.

Front Panel

① POWER button and STANDBY lamp (11)
② MEMORY button (16)
③ SOUND CONTROL buttons and lamps (MOVIE, SPORTS, MUSIC) (19)
④ MASTER VOLUME control (12)
⑤ SPEAKERS button (12)
⑥ PHONES jack (12)
⑦ Remote sensor (10)
⑧ TUNER/BAND button and lamp (16, 17)
⑨ PRESET SEA button and lamp (19)
⑩ SOURCE button and lamp (11)
⑪ Display (11)
⑫ SURROUND button and lamp (22, 25)
⑬ ADJUST button and lamp (22, 25)
⑭ SETTING button and lamp (13, 14)
⑮ CONTROL △ / ▽ / ◁ / ▷ button
⑯ ONE TOUCH OPERATION button and lamp (15)

Remote Control

⑰ TV/VIDEO button (33)
⑱ CH (+/–) (33)
⑲ CD-DISC button (32)
⑳ AUDIO CONTROL button (20, 23)
㉑ Source buttons (CD, TAPE, FM/AM, VCR, VIDEO, TV sound) (11, 32, 33)
㉒ VOLUME buttons (+/–) (12)
㉓ POWER buttons (TV, VCR, AUDIO) (11, 33)
㉔ 10 keys/Audio control buttons (17, 20, 23, 32)
㉕ SEA ON/OFF button (20)
㉖ SURROUND ON/OFF button (27, 28)
㉗ TV CONTROL buttons (TV, VOLUME (+/–)) (33)
㉘ ONE TOUCH OPERATION button (15)
㉙ Operating buttons for JVC audio/video components (32, 33)
㉚ MUTE button (12)

IMPORTANT:

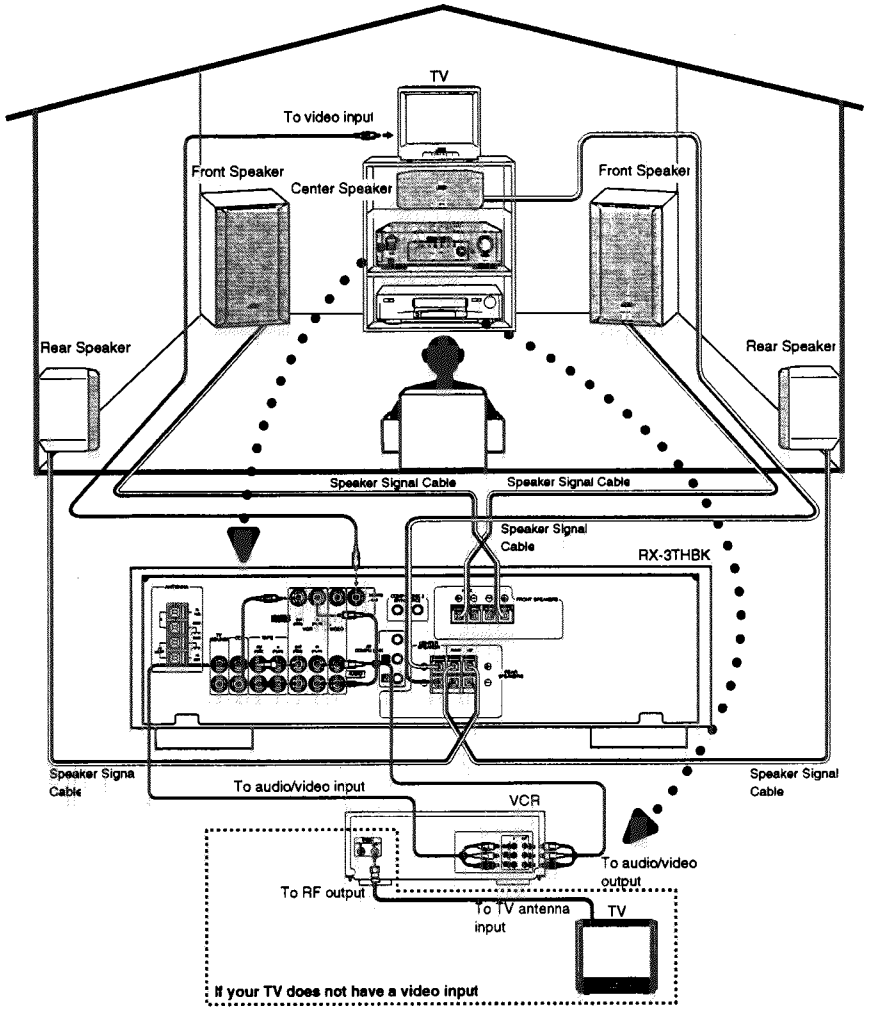
To use CONTROL △ / ▽ / ◁ / ▷ button (⑮) on the front panel:
How this button works is depending on which of **the function selecting buttons** (⑧, ⑨, ⑩, ⑫, ⑬, ⑭) for this button is pressed and the lamp is lit. Before using this button, make sure what lamp is lit

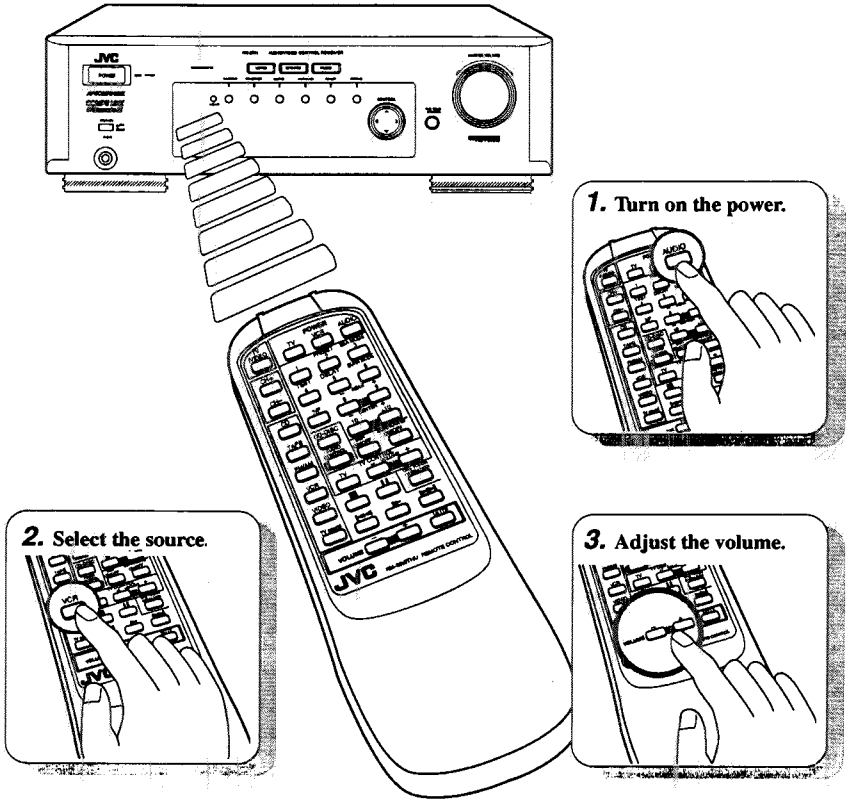
Instruction Book

RX-3THBK

Easy Set Up & Operations

If you are already familiar with audio components, these two pages just you opened give you enough information to operate your RX-3THBK for enjoyment of surround sound in your listening room.



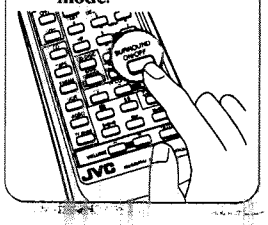


1. Turn on the power.

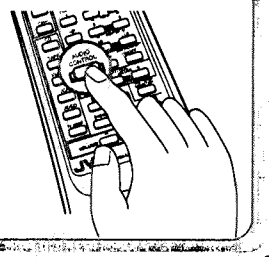
2. Select the source.

3. Adjust the volume.

4. Turn on the surround mode.



5. Surround settings are preset at the factory. However, if you would like to make further adjustments, see pages 21 to 28.



Getting Started

This section explains how to connect stereo components and speakers to the receiver, and how to connect the power supply.

Before Installation

General

- Be sure your hands are dry.
- Turn the power off to all components.
- Read the manuals supplied with the components you are going to connect.

Locations

- Install the receiver in a location that is level and protected from moisture.
- The temperature around the receiver must be between 23° and 95° F (–5° and 35° C).
- Make sure there is good ventilation around the receiver. Poor ventilation could cause overheating and damage the receiver.

Handling the receiver

- Do not insert any metal object into the receiver.
- Do not disassemble the receiver or remove screws, covers, or cabinet.
- Do not expose the receiver to rain or moisture.

Checking the Supplied Accessories

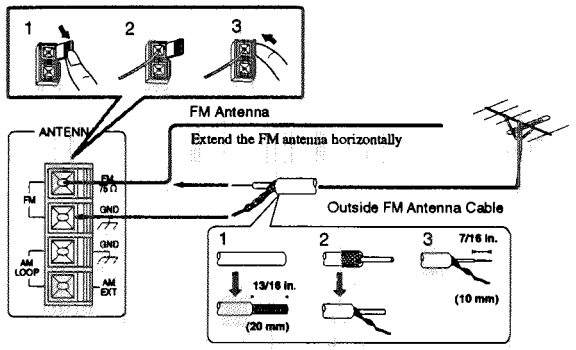
Check to be sure you have all of the following items, which are supplied with the receiver
The number in the parentheses indicates quantity of the pieces supplied.

- **Remote Control (1)**
- **Batteries (2)**
- **AM Loop Antenna (1)**
- **FM Antenna (1)**

If anything is missing, contact your dealer immediately.

Connecting the FM and AM Antennas

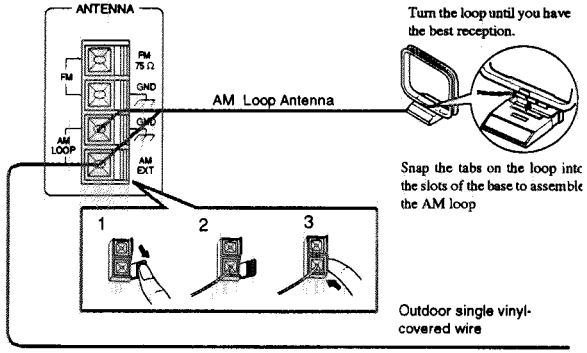
FM Antenna Connections



How to strip the 75-ohm coaxial cable and connect it to the FM terminals

1. Strip back the outside covering of the 75-ohm coaxial cable to expose the braided metallic mesh about 13/16 inches (20 mm).
2. Pull the mesh back and twist it into a single connector as shown in the illustration above.
3. Strip the insulation about 7/16 inches (10 mm) back from the central wire.
4. Insert the twisted mesh and the central wire to the FM terminals, as shown in the illustration above.

AM Antenna Connections



Note:

If reception is poor, connect the outside antenna.
Before attaching a 75-ohm coaxial cable (the kind with a round wire going to an outside antenna), disconnect the supplied FM wire antenna.

Notes:

- *If reception is poor, connect an outdoor single vinyl-covered wire to the AM EXT terminal. (Keep the AM loop antenna connected.)*
- *Make sure the antenna conductors do not touch any other terminals, connecting cords and power cord. This could cause poor reception.*

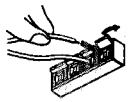
Connecting the Speakers

You can connect the following speakers:

- One set of front speakers to produce normal stereo sound
- One set of rear speakers to enjoy the surround effect
- One center speaker to produce more effective surround effect (to make human voices outstanding)

For each speaker, connect one end of the speaker signal cable (not supplied) to the speaker terminal on the rear panel and the other end to the speaker.

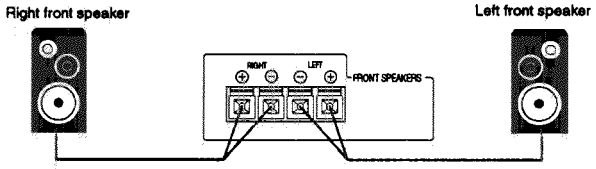
1. **Open each terminal.**
2. **Insert the end of the speaker signal cable as shown (be sure to remove the insulation at the end of each wire first).**



3. **Close the terminals to clamp the speaker signal cables firmly in place.**
4. **Connect the black (–) and red (+) terminals on the rear panel to the black (–) and red (+) terminals marked on the speakers.**

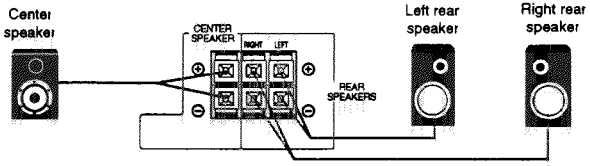
Connecting the front speakers

Connect the front speakers to the FRONT SPEAKERS terminals.



Connecting the rear and center speakers

Connect the rear speakers to the REAR SPEAKERS terminals and the center speaker to the CENTER SPEAKER terminals.



CAUTION:

Use speakers with the same impedance as marked near the terminals on the rear panel.

Notes:

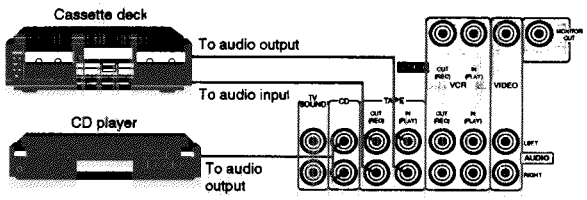
- *When you connect rear speakers, make sure that both left and right speakers are connected; otherwise, no sound will come out of the rear speakers.*
- *You can register the center speaker size after you finish its connection. If you register it, you do not have to set the center speaker mode while setting the Dolby surround mode. (If you do not use a center speaker, register that information.) See page 14.*

Connecting Audio/Video Components

You can connect the following components to the receiver using cables with RCA pin plugs

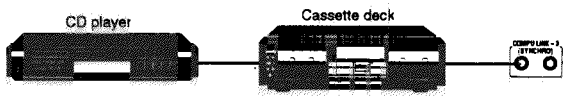
Audio Components	Video Components
• CD player	• VCR
• Cassette deck	• Video disc player
————	• TV

Audio component connections



If your audio components have a COMPU LINK-3 terminal

The COMPU LINK-3 remote control system allows you to control other JVC audio components from the receiver or vice versa.
Connect your audio components and the receiver with the cable (monaural mini-plug supplied with those components) as well as the connection above.
For detailed information about the COMPU LINK-3 remote control system, see page 29.



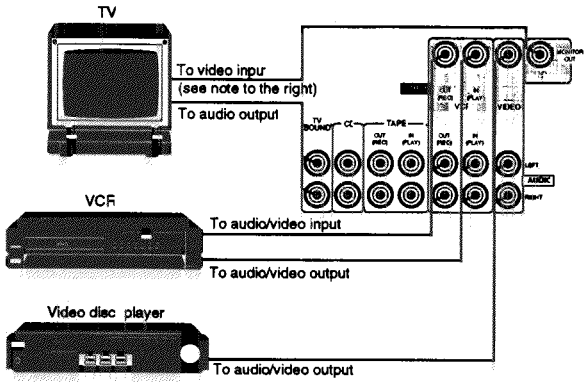
CAUTION:

If you connect a sound-enhancing device such as a graphic equalizer between the source components and this receiver, the sound output through this receiver may be distorted.

Notes:

- *The COMPU LINK-3 remote control system is the upgraded version of the COMPU LINK-1 and COMPU LINK-2. Even if your component has the COMPU LINK-1 or COMPU LINK-2 jacks, you can still connect it in the COMPU LINK-3 remote control system, but some functions may not work correctly.*
- *If your audio component has two COMPU LINK-3 (SYNCHRO) jack, connect it so that it is the last item in the series of components. (for example, the CD player in the diagram)*

Video component connections



If your video components have a AV COMPU LINK terminal

The AV COMPU LINK remote control system allows you to control other JVC videc components from the receiver or vice versa.
For detailed information about the connection and the AV COMPU LINK remote control system, see pages 30 and 31.

Note:

When connecting a JVC TV:

- *If you use the AV COMPU LINK remote control system to operate the TV, connect the receiver to the **Video Input 2 jack** on the TV.*
- *If you do not use the AV COMPU LINK remote control system to operate the TV, connect the receiver to the **Video Input 1 jack** on the TV.*

Notes:

- *The AV COMPU LINK remote control system cannot control the video component connected to the VIDEO jacks on the receiver, but can control only the VCR connected to the VCR jacks.*
- *Some VCRs use the AV COMPU LINK jacks for the SWAP editing. However, you cannot use both the AV COMPU LINK remote control and the SWAP editing at the same time. For the SWAP editing, see the manual supplied with the VCR.*

Connecting the Power Cord

Before plugging the receiver into an AC outlet, make sure that all connections have been made.
When the power cord is connected, the STANDBY lamp next to the POWER button lights up

Keep the power cord away from the connecting cables for the TV, VCR, and antenna The power cord may cause noise or screen interference. We recommend that you use a coaxial cable to connect the antenna, since it is well-shielded against interference

Notes:

- *A small amount of power is always consumed even in standby mode. To switch off the power completely, unplug the power cord from the AC outlet.*
- *If the power cord is unplugged or a power failure occurs, preset settings will be erased in a few days.*

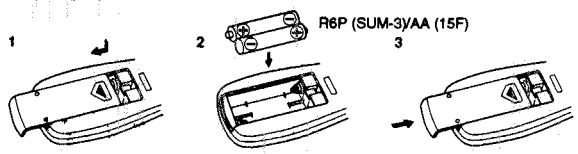
CAUTIONS:

- Do not touch the power cord with wet hands.
- Do not pull on the power cord to unplug the receiver. Wher unplugging the receiver, always grasp the plug itself so as not to damage the cord

Putting Batteries in the Remote Control

Before using the remote control, put the two supplied batteries in first. When using the remote control, aim the remote control directly at the remote sensor on the receiver.

1. **On the back of the remote control, press down on the battery cover and slide it out.**
2. **Insert batteries. Make sure to observe the proper polarity: (+) to (+) and (–) to (–).**
3. **Slide the cover.**



If the range or effectiveness of the remote control decreases, replace the batteries. Use two R6P (SUM-3)/AA (15F) type dry-cell batteries.

CAUTIONS:

Follow these precautions to avoid leaking or cracking cells

- Place batteries in the remote control so they match the polarity indicated: (+) to (+) and (–) to (–)
- Use the correct type of batteries. Batteries that look similar may differ in voltage.
- Always replace both batteries at the same time
- Do not expose batteries to heat or flame.

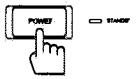
Basic Operations

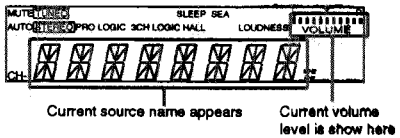
The following operations are commonly used when you play any sound source.

Turning the Power On and Off

On the front panel:

To turn on the power, press POWER.
The STANDBY lamp goes off. The name of the current source (or station frequency) appears on the display





Current source name appears

Current volume level is show here

To turn off the power, press POWER again.
The STANDBY lamp lights up.

From the remote control:

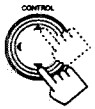
To turn on the power, press AUDIO.
The STANDBY lamp goes off. The name of the current source (or station frequency) appears on the display

To turn off the power, press AUDIO again.
The STANDBY lamp lights up.

Selecting the Source to Play

On the front panel:

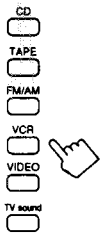
1. **Press SOURCE so that the CONTROL △ / ▽ / ◁ / ▷ button works for selecting the source.**
   The lamp above the button lights up.
2. **Press CONTROL △ / ▽ until the source name you want appears on the display.**



From the remote control:

Press one of the source buttons directly.

CD*	Listen to the CD player.
TAPE*	Listen to the cassette deck connected to the TAPE jacks.
FM/AM*	Listen to an FM or AM broadcast.
VCR	View the video component connected to the VCR jacks.
VIDEO	View the video component connected to the VIDEO jacks.
TV sound	Listen to TV sounds.



Note:

When you press one of the source buttons on the remote control marked with an asterisk (*), the receiver automatically turns on.

Adjusting the Volume

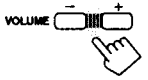
On the front panel:

To increase the volume, turn MASTER VOLUME clockwise.
To decrease the volume, turn it counterclockwise.

When you turn MASTER VOLUME **rapidly,** the volume level also changes **rapidly.**
When you turn MASTER VOLUME **slowly,** the volume level also changes **slowly.**

From the remote control:

To increase the volume, press the VOLUME +.
To decrease the volume, press the VOLUME –.



CAUTION:

Always set the volume to the minimum before starting any source. If the volume is set at its high level, the sudden blast of sound energy can permanently damage your hearing and/or ruin your speakers.

Outputting Sound through the Front Speakers

On the front panel *only*:

Press SPEAKERS to set it in the ▬ ON position.
If you press it again to set it in the ▮ OFF position, no sound comes out of the front speakers.

To listen only with headphones

1. **Connect a standard pair of headphones to the PHONES jack on the front panel.**
2. **Press SPEAKERS to set it in the ▮ OFF position so that no sound comes out of the front speakers.**

CAUTION:

Be sure to turn down the volume before connecting or putting on headphones, as high volume can damage both the headphones and your hearing.

Muting the Sound

From the remote control *only*:

Press MUTE to mute the sound through all speakers and headphones connected.
"MUTE" appears on the display and the volume turns off.

To restore the sound, press MUTE again so that "OFF" appears on the display.
Turning MASTER VOLUME or pressing VOLUME +/– also restores the sound at the previous volume level.

Recording a Source

You can record any source playing through the receiver to a cassette deck connected to the TAPE jacks and VCR connected to the VCR jacks at the same time.
While recording, you can listen to the selected sound source at whatever sound level you like, without affecting the sound levels of the recording.

Note:

The output volume level, preset SEA, and surround modes cannot affect the recording.

Basic Settings

Some of the following settings are required after connecting and setting your speakers in your listening room. And others will make operations easier.

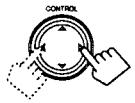
Adjusting the Front Speaker Output Balance

If the sounds you hear from the front right and left speakers are unequal, you can adjust the speaker output balance

On the front panel *only*:

1. **Press SETTING so that the CONTROL △ / ▽ /◁ / ▷ button works for adjusting the balance.**
   The lamp above the button lights up.

2. **Press CONTROL △ / ▽ until "BALANCE" appears on the display.**



3. **Press CONTROL < / ▷ to adjust the balance.**
   - Pressing CONTROL ◁ decreases the right channel output.
   - Pressing CONTROL ▷ decreases the left channel output.

Listening at Low Volume (Loudness)

Human ears are not sensitive to bass at low volume. To compensate for this, the loudness function automatically boosts the bass level as you lower the volume.

On the front panel *only*:

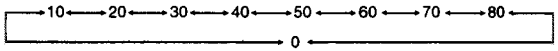
1. **Press SETTING so that the CONTROL △ / ▽ /◁ / ▷ button works for setting the loudness function.**
   The lamp above the button lights up.
2. **Press CONTROL △ / ▽ until "LOUDNESS" appears on the display.**
3. **Press CONTROL ◁ / ▷ to set the loudness function to "ON" or "OFF."**
   - Select "ON " to activate the loudness function.
     The LOUDNESS indicator lights up on the display.
   - Select "OFF" to cancel it.
     The indicator goes off.

Using the Sleep Timer

Using the Sleep Timer, you can fall asleep to music and know the receiver will turn off by itself rather than play all night

On the front panel *only*:

1. **Press SETTING so that the CONTROL △ / ▽ /◁ / ▷ button works for setting the Sleep Timer.**
   The lamp above the button lights up.
2. **Press CONTROL △ / ▽ until "<SLEEP>" appears on the display.**
3. **Press CONTROL ◁ / ▷ to set the shut-off time.**
   Each time you press the button, the shut-off time on the display changes as follows, and the SLEEP indicator lights up on the display.



When the shut-off time comes

The receiver turns off automatically.

To check or change the time remaining until the shut-off time

1. Press SETTING if necessary, so that the CONTROL △ / ▽ /◁ / ▷ buttons work for setting the Sleep Timer.
2. Press CONTROL △ / ▽ if necessary, until "<SLEEP>" appears on the display.
3. Press CONTROL ◁ / ▷.
   The remaining time until the shut-off time appears in minutes.
   - To change the shut-off time, press CONTROL ◁ / ▷ repeatedly.

To cancel the Sleep Timer

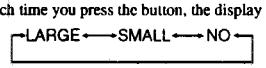
Press CONTROL < / ▷ repeatedly in step 3 above until "0" appears on the display.
(The SLEEP indicator goes off.)
Turning off the power also cancels the Sleep Timer

Selecting the Center Speaker Size

You can register the information about the center speaker after all connections are completed.
If you do this registration first, you do not have to adjust the center speaker mode when you want to activate the surround sound
However, to register the information, first you have to set the surround mode either to "PRO LOGIC" or "3CH LOGIC." (You cannot select the center speaker size when the surround mode is "OFF" or "HALL.")

On the front panel *only*:

1. **Press SURROUND so that the CONTROL △ / ▽ buttons work for selecting the surround mode.**
   The lamp above the button lights up.
2. **Press CONTROL △ / ▽ until "PROLOGIC" or "3CHLOGIC" appears on the display.**
   The indicator of the selected mode also lights up on the display.
3. **Press SETTING so that the CONTROL △ / ▽ /◁ / ▷ buttons work for selecting the center speaker size.**
   The lamp above the button lights up.
4. **Press CONTROL △ / ▽ until "CNTR SPK" appears on the display.**
5. **Press CONTROL ◁ / ▷ to select the appropriate item about your center speaker.**
   Each time you press the button, the display changes to show the following:



LARGE	Select this mode when the size of the center speaker is the same as that of the front speakers.
SMALL	Select this mode when the size of the center speaker is smaller than that of the front speakers.
NO	Select this mode when you do not use a center speaker. (This mode cannot be selected when you select "3CH LOGIC" in Step 2.)

Note:

When you turned off the receiver, the sleep timer is also canceled.

Note:

This "center speaker size" setting is so related to the center mode setting for the Dolby Surround that changing this setting affects and changes the center mode to a relevant mode, and vice versa.
For example;

- *If you select **"LARGE,"** the center mode is automatically set to **"WIDE,"** and vice versa.*
- *If you select **"SMALL,"** the center mode is automatically set to **"NORMAL,"** and vice versa.*
- *If you select **"NO,"** the center mode is automatically set to **"PHANTOM"** for Pro Logic, and vice versa.*

One Touch Operation

This receiver can memorize the optimum sound setting for each playing source.

About the One Touch Operation

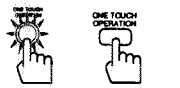
JVC's One Touch Operation function is used to assign and store different sound settings for each different playing source. By using this function, you do not have to change the settings every time you change the source. The stored settings for the newly selected source are automatically recalled.

The following can be stored for each source:
- Volume level (see page 12)
- Balance (see page 13)
- Loudness (see page 13)
- SEA modes (see page 19)
- Surround mode settings (see page 21)

Using the One Touch Operation

To store the sound settings

1. **Press ONE TOUCH OPERATION.**
   The ONE TOUCH OPERATION lamp lights up, then the previously memorized settings are recalled and appear on the display in turn.



On the front pane | From the remote control

2. **Adjust the sound using the functions listed above.**
   The newly adjusted settings are memorized.

To recall the sound settings

With the ONE TOUCH OPERATION lamp lit, the settings for the currently selected source is recalled, and appears on the display when the source is selected.

To cancel the One Touch Operation function

Press ONE TOUCH OPERATION so that the lamp goes off.
(Even though the One Touch Operation function is canceled, the recalled sound effects remain active.)

Note:

- *If the source is FM or AM. The One Touch Operation function works only when preset channels from 1 — 20 are tuned in. You can assign a different setting for each preset channel.*

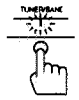
Receiving Radio Broadcasts

You can browse through all the stations or use the preset function to go immediately to a particular station.

Tuning in Stations Manually

On the front panel *only*:

1. **Press TUNER/BAND so that the CONTROL △ / ▽ / ◁ / ▷ button works for tuner settings.**
   The indicator above the button lights up.

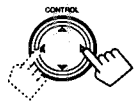


2. **Press CONTROL △ / ▽ until "<FM AM>" appears on the display.**

3. **Press CONTROL < / ▷ to select the band.**
   When you press the button, the last received station of the selected band is tuned in.
   Each time you press the button, the band alternates between FM and AM.

4. **Press CONTROL △ / ▽ until "–TUNING+" appears on the display.**

5. **Press CONTROL < / ▷ until you find the frequency you want.**
   - Pressing CONTROL ◁ decreases the frequency.
   - Pressing CONTROL ▷ increases the frequency.



Notes:

- *When you hold down CONTROL ◁ / ▷ in step 5, the frequency keeps changing until you press CONTROL ◁ / ▷ again or a station is tuned in.*
- *When a station of sufficient signal strength is tuned in, the TUNED indicator lights up on the display.*
  When an FM stereo program is received, the STEREO indicator also lights up.

Using Preset Tuning

Once a station is assigned to a channel number, the station can be quickly tuned. You can preset up to 40 stations at random.

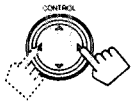
To store the preset stations

On the front panel *only*:

1. **Tune in the station you want to preset (see above).**
   If you want to store the FM reception mode for this station, select the FM reception mode you want. See page 18 for details.

2. **Press MEMORY.**
   "CH-" appears and the channel number position starts flashing on the display for about 5 seconds.

3. **Press CONTROL < / ▷ to select a channel number while the channel number position is flashing.**
   - Pressing CONTROL ◁ decreases the number.
   - Pressing CONTROL ▷ increases the number.



Note:

You can press 10 keys on the remote control to select a channel number in step 3 if you have pressed FM/AM prior to starting this preset procedures.

- *For channel number 5, press 5.*
- *For channel number 15, press +10 then 5.*
- *For channel number 20, press +10 then 10.*
- *For channel number 30, press +10, +10 then 10.*

4. **Press MEMORY again while the selected channel number is flashing on the display.**
   The selected channel number stops flashing.
   The station is assigned to the selected channel number.

5. **Repeat steps 1 to 4 until you store all the stations you want.**

To cancel a stored preset station

Storing a new station on a used number erases the previously stored one.

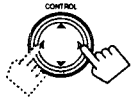
To tune in a preset station

On the front panel:

1. **Press TUNER/BAND so that the CONTROL △ / ▽ / ◁ / ▷ button works for tuner settings.**
   The lamp above the button lights up.

2. **Press CONTROL △ / ▽ until "–PRESET+" appears on the display.**

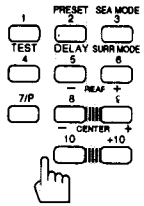
3. **Press CONTROL ◁ / ▷ to select a preset channel.**
   When you press the button, the last received channel is tuned in.
   Each time you press the button, the preset channels change
   - Pressing CONTROL ◁ changes preset channels in decreasing order.
   - Presing CONTROL ▷ changes preset channels in increasing order.



From the remote control:

1. **Press FM/AM.**
   The last received station of the last selected band is tuned in.
   Each time you press the button, the band alternates between FM and AM.

2. **Press 10 keys to select a preset channel number.**
   - For channel number 5, press 5.
   - For channel number 15, press +10 then 5.
   - For channel number 20, press +10 then 10.
   - For channel number 30, press +10, +10 then 10.



CAUTION:

Preset stations may be erased when power is cut off to the receiver, as when it is unplugged from the AC outlet or a power failure occurs. If the preset stations are lost, simply set the stations again.

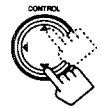
Selecting the FM Reception Mode

You can change the FM reception mode while receiving an FM broadcast.

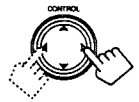
On the front panel *only*:

1. **Press TUNER/BAND so that the CONTROL △ / ▽ / ◁ / ▷ button works for tuner settings.**
   The lamp above the button lights up

2. **Press CONTROL △ / ▽ until "<FM MODE>" appears on the display.**



3. **Press CONTROL ◁ / ▷ to select either "FM AUTO" or "FM MONO."**
   - Normally select "FM AUTO."
   - When an FM stereo broadcast is hard to receive or noisy, select "FM MONO."



FM AUTO	When a program is broadcast in stereo, you will hear stereo sound; when in monaural, you will hear monaural sounds. This mode is also useful to suppress static noise between stations. The MUTE AUTO indicator lights up on the display.
FM MONO	Reception will be improved although you will lose the stereo effect. In this mode, you will hear noise while tuning into the stations. The MUTE AUTO indicator goes off on the display.

Note:

You can store the FM reception mode for each preset station.

Using the Preset SEA Modes

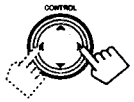
The preset SEA (Sound Effect Amplifier) modes give you control over the way your music sounds.

Selecting Your Favorite SEA Mode

On the front panel:

1. **Press PRESET SEA so that the CONTROL △ / ▽ / ◁ / ▷ button works for preset SEA setting.**
   The lamp above the button lights up.

2. **Press CONTROL △ / ▽ until the mode you want appears on the display.**
   Each time you press the button, the preset SEA modes change as follows:
   MOVIE ⟷ SPORTS ⟷ MUSIC
   OFF
   The lamp of the selected preset SEA mode lights up in turn as you select the preset SEA modes.



3. **Press CONTROL ◁ / ▷ to select the effect level.**
   Each time you press the button, the effect level changes as follows:
   When "MOVIE" is selected:
   MOVIE 1 ⟷ MOVIE 2 ⟷ MOVIE 3
   When "SPORTS" is selected:
   SPORTS1 ⟷ SPORTS2 ⟷ SPORTS3
   When "MUSIC" is selected:
   JAZZ 1 ⟷ JAZZ 2 ⟷ ROCK 1 ⟷ ROCK 2
   COUNTRY2 ⟷ COUNTRY1 ⟷ MUSICAL2 ⟷ MUSICAL1

MOVIE	Adds breadth to sounds so you feel like you are in a movie theater
SPORTS	Makes sounds exciting.
MUSIC	Select one of the modes below **JAZZ:** Gives a feeling of a live atmosphere. Good for acoustic music. **ROCK:** Gives a heavy sound. Both high and low frequencies are boosted. **MUSICAL:** Enhances the mid-frequency range, which the human voice is mostly made up of. **COUNTRY:** Enhances the high-frequency range so that instruments such the violin and banjo are emphasized.
OFF	No preset SEA mode is applied (also see below).

To simply turn the preset SEA mode on or off

You can turn on and off the preset SEA mode, by simply pressing MOVIE, SPORTS, or MUSIC.
The lamp of the selected mode lights up when it is on, and goes off when it is off.

Notes:

- *The preset SEA mode cannot be used for recording.*
- *When you turn on the preset SEA mode, the mode and its effect level previously selected is recalled at first.*
- *While you are selecting a preset SEA mode, the corresponding lamp lights up in turn.*

Notes:

- *When you turn on the preset SEA mode, the mode is recalled at its previous effect level.*
- *Selecting another mode cancels the mode previously selected.*

From the remote control:

1. **Press AUDIO CONTROL button so that 10 keys work for adjusting the sound.**

2. **Press SEA ON/OFF so that one of the preset SEA mode lamps (MOVIE, SPORTS, MUSIC) lights up.**
   The previous mode is recalled (at its previous effect level) and is shown on the display.
   Each time you press the button, the preset SEA mode turns on and off.

3. **Press SEA MODE until the mode you want appears on the display.**
   Each time you press the button, the three preset SEA modes change as follows:
   Ex. MOVIE 1 → SPORTS2 → JAZZ 2
   The lamp of each selected preset SEA mode lights up in turn as you select the preset SEA modes.

4. **Press PRESET to select the effect level.**
   Each time you press the button, the effect level changes as follows:
   When "MOVIE" is selected:
   MOVIE 1 → MOVIE 2 → MOVIE 3
   When "SPORTS" is selected:
   SPORTS1 → SPORTS2 → SPORTS3
   When "MUSIC" is selected:
   JAZZ 1 → JAZZ 2 → ROCK 1 → ROCK 2
   COUNTRY2 ← COUNTRY1 ← MUSICAL2 ← MUSICAL1

To cancel the Preset SEA mode

1. Press AUDIO CONTROL.
2. Press SEA ON/OFF so that the lamp of the selected SEA mode goes off

Note:

When selecting the preset SEA mode, the display will show the current effect level of the preset SEA mode selected.

Using the Surround Processor

The built-in surround processor provides three types of surround modes — Dolby Pro Logic, Dolby 3-Channel Logic, and JVC's Hall Surround.

What is surround?

The sound heard in a concert hall or a movie theater consists of direct sound and indirect sound: early reflections and reflections from behind. The reflected sounds are always delayed by the distances of the ceiling and walls from the listener. These reflections are some of the most important elements of the acoustic surround.

On JVC's Hall Surround

In order to reproduce a more realistic sound field in your listening room while playing an ordinary stereo source, JVC's Hall Surround has been designed to give you clear vocals and to create the feeling of a concert hall. The sound is reproduced through the front speakers and rear speakers

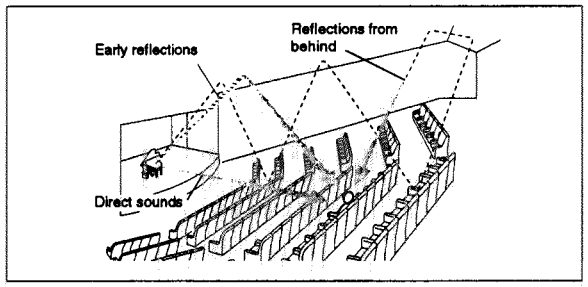
On Dolby Surround

Dolby Surround has been developed to reproduce the important elements of the acoustic surround at home.

To watch the soundtracks of video software bearing the mark DOLBY SURROUND * which includes the same encoded surround information as found in Dolby Stereo films, the receiver can provide you with 2 Dolby Surround modes (Dolby Pro Logic and Dolby 3ch Logic).

Dolby Pro Logic: Select this mode when an optional center speaker and rear speakers are connected.

Dolby 3ch Logic: Select this mode when a center speaker is connected without rear speakers.



Notes:

- *The surround processor has no effect on monaural sources.*
- *The surround processor cannot be used for recording.*

* *Manufactured under license from Dolby Laboratories Licensing Corporation. Additionally licensed under Canadian patent number 1,037,877. "Dolby," the double-D symbol and "Pro Logic" are trademarks of Dolby Laboratories Licensing Corporation.*

Using JVC's Hall Surround

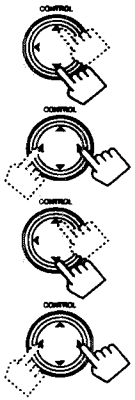
You need to connect one set of rear speakers to obtain the full effect.

On the front panel:

1. **Press SURROUND so that the CONTROL △ / ▽ /◁ / ▷ button works for selecting the surround modes.**
   The lamp above the button lights up.

2. **Press CONTROL △ / ▽ until "HALL" appears on the display.**
   Each time you press the button, the surround modes change as follows:
   PROLOGIC ⟷ 3CHLOGIC ⟷ HALL
   OFF
   The indicator of the selected surround mode lights up in turn as you select the surround modes.

3. **Press ADJUST so that the CONTROL △ / ▽ /◁ / ▷ button works for surround setting.**
   The lamp above the button lights up.



4. **Press CONTROL △ / ▽ until "– REAR +" appears on the display.**

5. **Press CONTROL < / ▷ to adjust the rear speaker output level.**
   - Pressing CONTROL ◁ decreases the output level up to –10 dB.
   - Pressing CONTROL ▷ increases the output level up to +10 dB.

6. **Press CONTROL △ / ▽ until "–DELAY +" appears on the display.**

7. **Press CONTROL ◁ / ▷ to adjust the delay time of the rear speaker output.**
   Each time you press the button, the delay time changes as follows:
   DELAY 1 ⟷ DELAY 2 ⟷ DELAY 3

DELAY 1	Select this when your distance to your rear speakers is greater than that to the front speakers.
DELAY 2	Select this when your distance to your rear speakers is almost equal to that to the front speakers.
DELAY 3	Select this when your distance to your rear speakers is less than that to the front speakers.

To cancel the Hall surround

Select "OFF" in step 2 above.

Notes:

- *When you turn on the surround mode, one of the modes previously selected is recalled at first.*
- *While you are selecting a surround mode, the corresponding indicator lights up in turn on the display.*

Note:

Once you have adjusted the Hall Surround, the receiver memorizes the settings.

Using the Surround Processor

From the remote control:

1. **Press AUDIO CONTROL button so that 10 keys work for adjusting the sound.**

2. **Press SURROUND ON/OFF so that one of the preset surround mode indicators (PRO LOGIC, 3CH LOGIC, HALL) lights up on the display.**
The previous mode is recalled (at its previous settings) and is shown on the display.
Each time you press the button, the surround mode turns on and off.

3. **Press SURR MODE until "HALL" appears on the display.**
Each time you press the button, the surround modes change as follows:

→PROLOGIC ⟶ 3CHLOGIC ⟶ HALL →

The indicator of the selected surround mode lights up in turn as you select the surround modes.

4. **Press REAR +/– to adjust the rear speaker output level.**
   - Pressing REAR – decreases the output level up to –10 dB
   - Pressing REAR + increases the output level up to +10 dB

5. **Press DELAY to adjust the delay time.**
Each time you press the button, the delay time changes as follows:

→ DELAY 1 ⟶ DELAY 2 ⟶ DELAY 3 →

To cancel the Hall Surround

1. Press AUDIO CONTROL.
2. Press SURROUND ON/OFF.
Each time you press the button, the surround mode turns on and off.

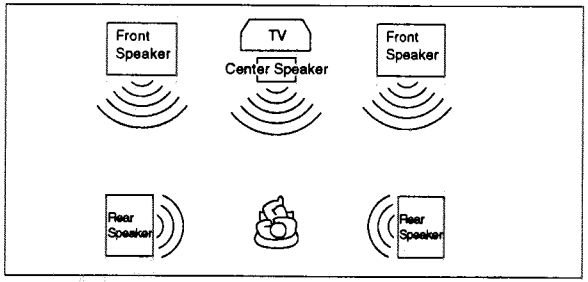
Note:

Once you have adjusted the Hall Surround, the receiver memorizes the settings.

Speaker Arrangements for Dolby Surround

The following illustrations show how to obtain the optimum sound environment for various Dolby Surround settings. Try to find the speaker direction and location to create the optimum sound field.

CASE 1 **When you have added a center speaker and rear speakers**

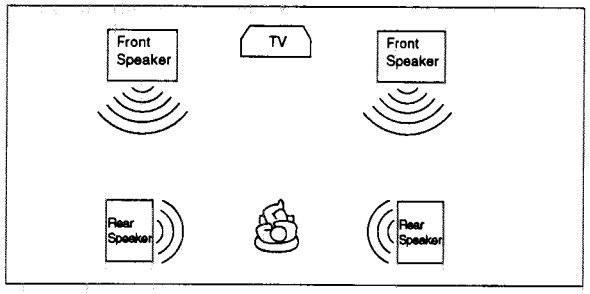


In this case:

1. Select "PRO LOGIC."
2. Select "NORMAL" or "WIDE" for center mode.

See pages 25 and 26 for more details.

CASE 2 **When you have added rear speakers (without a center speaker)**

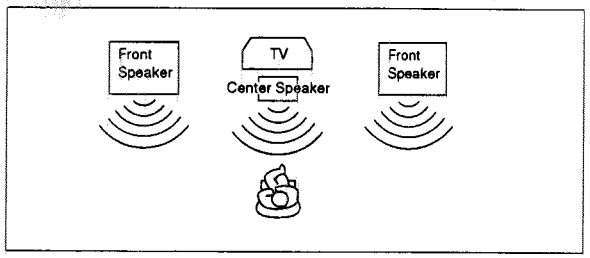


In this case:

1. Select "PRO LOGIC."
2. Select "PHANTOM" for center mode.

See pages 25 and 26 for more details.

CASE 3 **When you have added a center speaker (without rear speakers)**



In this case:

1. Select "3CH LOGIC."
2. Select "NORMAL" or "WIDE" for center mode.

See pages 25 to 26 for more details.

Preparing for Dolby Surround

The receiver memorizes two sets of Dolby Surround adjustments; one for Pro Logic and the other for 3ch Logic.

On the front panel:

1. **Press SURROUND so that the CONTROL △ / ▽ button works for selecting the surround modes.**
   The lamp above the button lights up.

2. **Press CONTROL △ / ▽ until "PROLOGIC" or "3CH LOGIC" whichever you want appears on the display.**
   The PROLOGIC or 3CHLOGIC indicator also lights up.
   Each time you press the button, the surround modes change as follows:

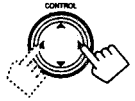
PROLOGIC ⟷ 3CHLOGIC ⟷ HALL
OFF

PRO LOGIC	Select this mode when you use a center speaker and rear speakers.
3CH LOGIC	Select this mode when you use a center speaker without rear speakers.
HALL	This is JVC's original surround mode, and is different from Dolby Surround. To use this, see page 22.
OFF	Select this to turn off the surround mode.

3. **Press ADJUST so that the CONTROL △ / ▽ / ◁ / ▷ button works for adjusting the selected surround mode.**
   The lamp above the button lights up.

4. **Press CONTROL △ / ▽ until "CNT MODE" (Center Mode) appears on the display.**

5. **Press CONTROL < / ▷ to select the center mode.**
   Each time you press the button, the center modes change as follows:



WIDE ⟷ NORMAL ⟷ PHANTOM
OFF

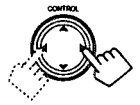
WIDE	Select this mode when the center speaker can reproduce the bass better than the front speakers. All signals of the center channel are output through the center speaker.
NORMAL	Select this mode when the center speaker cannot reproduce the bass better than the front speakers. The bass portions of the center channel signals are output through the front speakers.
PHANTOM	Select this mode when you do not use a center speaker. The center speaker channel signals are output through the front speakers.
OFF	Select this mode to turn off the center speaker channel.

Notes:

- *If you have already set the center speaker size following the procedure described on page 14, you do not have to select the center mode in this procedure.*
- *When you have selected "3CH LOGIC," you cannot select "PHANTOM."*

6. **Press CONTROL △ / ▽ until "–DELAY +" appears on the display.**

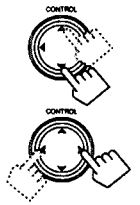
7. **Press CONTROL ◁ / ▷ to adjust the delay time of the rear speaker output.**
   Each time you press the button, the delay time changes as follows:



DELAY 1 ⟷ DELAY 2 ⟷ DELAY 3

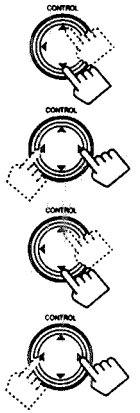
DELAY 1	Select this when the distance from you to your rear speakers is greater than that to the front speakers.
DELAY 2	Select this when the distance from you to your rear speakers is almost equal to that to the front speakers.
DELAY 3	Select this when the distance from you to your rear speakers is less than that to the front speakers.

8. **Press CONTROL △ / ▽ until "TEST" appears on the display, then press CONTROL ◁ / ▷ to start checking the speaker output balance.**
   "TEST" starts flashing on the display, and a test tone comes out of the speakers in the following order:



Left front speaker → Center speaker → Right front speaker → Rear speakers → Left front speaker

9. **If necessary, adjust the speaker output balance as follows:**
   - To adjust the rear speaker output level, press CONTROL △ / ▽ until "– REAR +" appears on the display, then press CONTROL ◁ / ▷.
   - To adjust the center speaker output level, press CONTROL △ / ▽ until "–CENTER+" appears on the display, then press CONTROL < / ▷.



10. **Press CONTROL △ / ▽ until "TEST" appears on the display, then press CONTROL ◁ / ▷ to stop the test tone.**

Note:

When you have selected "3CH LOGIC," you cannot adjust the delay time.

Notes:

- *No test tone comes out of the rear speakers when you have selected "3CH LOGIC."*
- *No test tone comes out of the center speaker when you select "PHANTOM" or "OFF" for the center mode.*

Notes:

- *The sound levels of the left and right rear speakers will be the same.*
- *You cannot set the sound level of the rear speakers when you have selected "3CH LOGIC."*
- *You cannot set the sound level of the center speaker when you select "PHANTOM" or "OFF" for the center mode.*

Using the Surround Processor

From the remote control:

If you have already set the center speaker size following the procedure described on page 14, you can use the remote control for Dolby Surround preparation

1. **Press AUDIO CONTROL button so that 10 keys work for adjusting the sound.**

2. **Press SURROUND ON/OFF so that one of the preset surround mode indicators (PRO LOGIC, 3CH LOGIC, HALL) lights up on the display.**
The previous mode is recalled (at its previous settings) and is shown on the display.
Each time you press the button, the surround mode turns on and off.

3. **Press SURR MODE until "PROLOGIC" or "3CHLOGIC" whichever you want appears on the display.**
Each time you press the button, the surround modes change as follows:

PROLOGIC ⟶ 3CHLOGIC ⟶ HALL

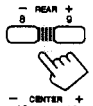
4. **Press DELAY to adjust the delay time of the rear speaker output.**
Each time you press the button, the delay time changes as follows:

DELAY 1 ⟶ DELAY 2 ⟶ DELAY 3

5. **Press TEST to start checking the speaker output balance.**
"TEST" starts flashing on the display, and a test tone comes out of the speakers in the following order:

Left front speaker ⟶ Center speaker ⟶ Right front speaker ⟶ Rear speakers

6. **If necessary, adjust the speaker output balance as follows:**
   - To adjust the rear speaker output level, press REAR +/–.
   - To adjust the center speaker output level, press CENTER +/–
     Pressing – decreases the output level up to –10 dB.
     Pressing + increases the output level up to +10 dB.



7. **Press TEST again to stop the test tone.**

Note:

When you have selected "3CH LOGIC," you cannot adjust the delay time.

Notes:

- *No test tone comes out of the rear speakers when you have selected "3CH LOGIC."*
- *No test tone comes out of the center speaker when you select "PHANTOM" or "OFF" for the center mode.*

Notes:

- *The sound levels of the left and right rear speakers will be the same.*
- *You cannot set the sound level of the rear speakers when you have selected "3CH LOGIC."*
- *You cannot set the sound level of the center speaker when you select "PHANTOM" or "OFF" for the center mode.*

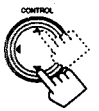
Using Dolby Surround

Once you have set the Dolby Surround adjustments you can use the same adjustments every time you want to activate Dolby Surround.

On the front panel:

1. **Press SURROUND so that the CONTROL △ / ▽ button works for selecting the surround modes.**
The lamp above the button lights up.

2. **Press CONTROL △ / ▽ until "PROLOGIC" or "3CHLOGIC" whichever you want appears on the display.**
The PROLOGIC or 3CHLOGIC indicator also lights up.
Each time you press the button, the surround modes change as follows:



PROLOGIC ⟶ 3CHLOGIC ⟶ HALL ⟶ OFF

3. **Select and play a sound source which was processed with Dolby Surround and is labeled with DOLBY SURROUND mark**

To cancel Dolby Surround

Select "OFF" in step 2 above. The indicator of the selected mode goes off.

From the remote control:

1. **Press AUDIO CONTROL button so that 10 keys work for adjusting the sound.**

2. **Press SURROUND ON/OFF so that one of the preset surround mode indicators (PRO LOGIC, 3CH LOGIC, HALL) lights up on the display.**
The previous mode is recalled (at its previous settings) and is shown on the display.
Each time you press the button, the surround mode turns on and off.

3. **If necessary, press SURR MODE until "PROLOGIC" or "3CHLOGIC" whichever you want appears on the display.**
Each time you press the button, the surround modes change as follows:

PROLOGIC ⟶ 3CHLOGIC ⟶ HALL

4. **Select and play a sound source which was processed with Dolby Surround and is labeled with DOLBY SURROUND mark**

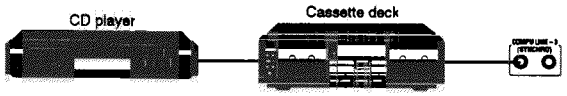
To cancel Dolby Surround

1. Press AUDIO CONTROL.
2. Press SURROUND ON/OFF.
   Each time you press the button, the surround mode turns on and off.

COMPU LINK Remote Control System

The COMPU LINK remote control system allows you to operate JVC audio components through the remote sensor on the receiver.

To use this remote control system, you need to connect JVC audio components through the COMPU LINK-3 (SYNCHRO) jacks with the cable (monaural mini-plug supplied with those components):



This remote control system allows you to use the four functions listed below.

Remote Control through the Remote Sensor on the Receiver

You can control JVC audio components through the remote sensor on the receiver using this remote control. Aim the remote control directly at the remote sensor on the receiver. For details, see page 32.

Automatic Source Selection

When you press the play (▶) button on a connected component or on its own remote control, the receiver automatically turns on and changes its source to the component. On the other hand, if you select a new source on the receiver or the remote control, the selected component begins playing immediately.
In both cases, the previously selected source continues playing without sound for a few seconds

Automatic Power On/Off (only possible with the COMPU LINK-3 connection)

Both the CD player and cassette deck turn on and off with the receiver.
When you turn on the receiver, the CD player or cassette deck will turn on automatically, depending which component has been previously selected.
When you turn off the receiver, both the CD player and cassette deck will turn off.

Synchronized Recording

Synchronized recording means the cassette deck starts recording as soon as a CD begins playing.

To use synchronized recording, follow these steps:

1 **Put a tape in the cassette deck, and a disc in the CD player.**
2 **Press the record (●) button and the pause (II) button on the cassette deck at the same time.**
This puts the cassette deck into recording pause.
If you do not press the record (●) button and pause (II) button at the same time, the synchronized recording feature will not operate.
3 **Press the play (▶) button on the CD player.**
The source changes on the receiver, and as soon as play starts, the cassette deck starts recording. When the play ends, the cassette deck enters recording pause, and stops about 4 seconds later.

Notes:

- *Without connecting the audio components with RCA pin plugs as described on page 8, the COMPU LINK remote control system cannot operate the components.*
- *Refer also to the manuals supplied with your audio components.*

Notes:

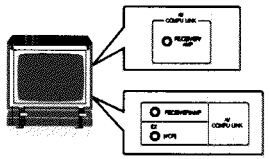
- *During synchronized recording, the selected source cannot be changed.*
- *If your CD player is playing in program mode, a 4-second blank is recorded between tracks so that the music scan feature of your cassette deck can be used on the recorded tape.*
- *If the power of any component is shut off during synchronized recording, the COMPU LINK remote control system may not operate properly. In this case, you must start again from the beginning.*

AV COMPU LINK Remote Control System

The AV COMPU LINK remote control system allows you to operate JVC video components through the receiver.

CONNECTIONS:

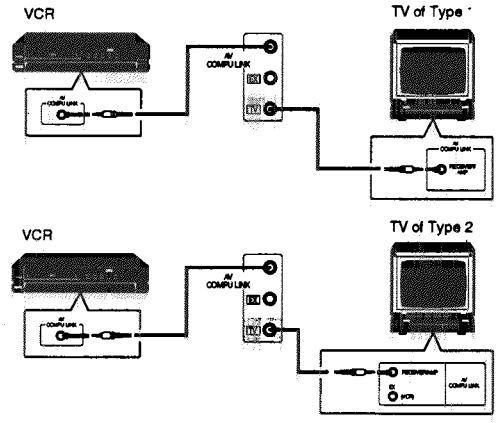
Before connecting the video components in the AV COMPU LINK remote control system, check the type of the AV COMPU LINK terminal provided for your TV.



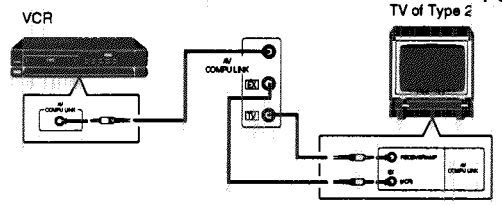
Type 1: Only with the RECEIVER/AMP terminal

Type 2: With RECEIVER/AMP and EX(VCR) terminals

1 **Connect the receiver, VCR, and TV with the cables (monaural mini-plug; this is not supplied, so purchase one by yourself).**
This connection allows you to use four basic AV COMPU LINK functions (see the next page).



2 **If your TV is of Type 2, connect the receiver and TV with another cable (monaural mini-plug; this is not supplied, so purchase one by yourself).**
This connection allows you to use two additional AV COMPU LINK functions (Automatic "THEATER" Selection and Automatic TV Mute : see the next page).



Notes:

- *When turning on the TV for the first time after the AV COMPU LINK connection, turn the TV volume to the minimum using the TV volume control on the TV.*
- *This remote control system cannot control video components connected to the VIDEO jacks. So, when you connect the VCR into the AV COMPU LINK remote control system, connect it to the VCR jacks.*
- *Without connecting the video components with RCA pin plugs as described on page 9, the AV COMPU LINK remote control system cannot operate the components.*
  *If you want to operate the TV with the AV COMPU LINK remote control system, connect the receiver to the **Video Input 2 jack** on the TV.*
- *Refer also to the manuals supplied with your video components.*

AV COMPU LINK Remote Control System

FOUR BASIC FUNCTIONS:

The AV COMPU LINK remote control system allows you to use the four basic functions listed below.

Remote Control of the TV and VCR Using This Remote Control

See page 33 for details.

- Aim the remote control directly **at the remote sensor on the receiver when operating the TV.**
- Aim the remote control directly **at the remote sensor on the VCR when operating the VCR.**

Automatic Selection of TV's Input Mode

- When you select TV sound as the source to play through the receiver, the TV automatically changes the input mode to the TV tuner.
  So, you can watch TV, without changing the input mode on the TV.
- When you select any source other than TV sound as the source to play through the receiver, the TV automatically changes the input mode to the video input.

One-Touch Video Play

Simply by inserting a video cassette without its safety tab into the VCR, you can activate the video playback without setting other switches manually.
The receiver automatically turns on and changes the source to the VCR.
The TV automatically turns on and changes the input mode to the correct position so that you can view the VCR playback.
When you insert a video cassette with its safety tab, press the play (▶) button on the VCR or on the remote control. So, you can get the same result.

Automatic Power On/Off

Both the TV and the VCR turn on and off along with the receiver.
When you turn on the receiver:

- If the previously selected source is VCR, the TV and VCR will turn on automatically.
- If the previously selected source is VIDEO or TV sound, only the TV will turn on automatically.

When you turn off the receiver, both the TV and VCR will turn off.

ADDITIONAL FUNCTIONS:

If you connect the EX terminal on the receiver and the EX(VCR) terminal on the TV, you can use the functions below.

Automatic "THEATER" Selection for TV's Video Status

When you set the preset SEA mode to "MOVIE," the TV automatically changes its Video Status mode to "THEATER" — the mode best for watching a movie.
When you cancel "MOVIE," the TV's Video Status mode changes to "STANDARD" (no effect).

Automatic TV Mute (with Automatic Selection of TV Input Mode)

- When you select TV sound as the source to play through the receiver, the TV automatically changes the input mode to the TV tuner and turns off the TV volume. So, you can watch TV, without changing the input mode on the TV, and listen to TV sounds only through the speakers connected to this receiver, without turning off the volume on the TV.
- When you select any source other than TV sound as the source to play through the receiver, the TV automatically changes the input mode to the video input.

Note:

If you turn off the receiver while recording on the VCR, the VCR will not turn off, but continue recording.

Note:

Since the TV recalls the Video Status mode previously selected when it is turned on, the TV's Video Status will not be "THEATER" when it is turned on, even if "MOVIE" has been selected on the receiver. In this case, turn off "MOVIE," then turn it on again to change the TV's Video Status mode to "THEATER."

Operating Other Components

You can operate JVC's audio and video components with this receiver's remote control.
To operate these components with the remote control, first select a source with the source buttons on the remote control. Then, operate that source using the remote control.

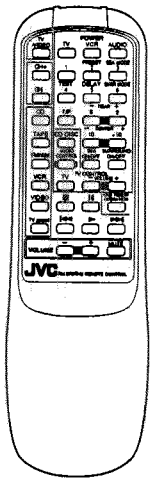
IMPORTANT:

To operate JVC's audio components using this remote control:

- You need to connect JVC audio components through the COMPU LINK-3 (SYNCHRO) jacks (see page 8) in addition to the connections using cables with RCA pin plugs (see page 8).
- Aim the remote control directly at the remote sensor on the receiver.

Note:

If you choose a source on the front panel, the remote control will not operate that source.



■ **After pressing CD, you can perform the following operations on the CD player:**

▶	Starts playing.
⏮	Returns to the beginning of the current (or previous) track.
⏭	Skips to the beginning of the next track.
■	Stops playing.
⏸	Pauses. To resume playing, press ▶.
1 — 10, +10	Selects a track number directly To select track number 5, press 5. For track number 15, press +10, then 5. For track number 20, press +10, then 10. For track number 30, press +10, +10 then 10.

■ **After pressing CD-DISC, you can perform the following operations on the CD player-changer:**

1 — 6, 7/P	Select the number of a disc installed in a CD player-changer. Then continue to operate the CD player as described above.

■ **After pressing TAPE, you can perform the following operations on a cassette deck:**

▶	Starts playback.
⏮	Fast winds a tape from right to left.
⏭	Fast winds a tape from left to right.
■	Stops operation.
⏸	Pauses. To resume playing, press ▶.

Operating Other Components

IMPORTANT:

To operate JVC's video components using this remote control:

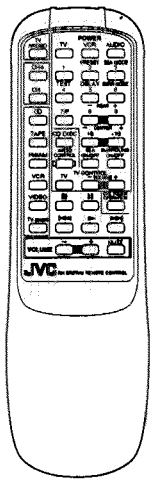
- You need to connect JVC video components through the AV COMPU LINK jacks (see page 30) in addition to the connections using cables with RCA pin plugs (see page 9).
- Some of JVC's VCR can accept two types of the control signals — remote control code "A" and "B." Before using this remote control, make sure that the remote control code of the VCR connected to the VCR jacks is set to code "A." For setting the remote control code of the VCR, refer to the manuals supplied with your VCR.
- When operating the TV, aim the remote control directly at **the remote sensor on the receiver.**
- When operating the VCR, aim the remote control directly at **the remote sensor on the VCR.**

■ **After pressing TV sound or TV (located in the TV CONTROL section, not the one in the POWER section), you can perform the following operations on the TV:**

CH+/– Changes the channels

Without pressing TV sound or TV, you can always perform the following:

TV/VIDEO Sets input mode (either TV or VIDEO)
VOLUME +/– Adjusts the volume (in the TV CONTROL section)
TV Turns on/off the TV (in the POWER section)



■ **After pressing VCR, you can perform the following operations on the VCR:**

► Starts playback.
|◄◄ Rewinds a video tape.
►►| Fast winds a video tape.
■ Stops operation.
II Pauses. To resume playing, press ►.
CH+/– Changes the channels on a VCR

Without pressing VCR, you can always perform the following:

VCR Turns on/off the VCR (in the POWER section)

Note:

If you choose a source on the front panel, the remote control will not operate that source.

Troubleshooting

Use this chart to help you solve daily operational problems. If there is any problem you cannot solve, contact your JVC service center.

PROBLEM	POSSIBLE CAUSE	SOLUTION
The display does not light up	The power cord is not plugged in	Plug the power cord into an AC outlet
No sound from speakers	Speaker signal cables are not connected	Check speaker wiring and reconnect if necessary
	The SPEAKERS button is not set correctly	Press SPEAKERS to set it in the ▬ ON position.
	An incorrect source is selected	Select the correct source
Sound from one speaker only	Speaker signal cables are not connected properly	Check speaker wiring and reconnect if necessary
	The balance is set to one extreme	Adjust the balance properly (see page 13).
Continuous hiss or buzzing during FM reception	Incoming signal is too weak	Connect an outside FM antenna or contact your dealer
	The station is too far away	Select a new station
	An incorrect antenna is used	Check with your dealer to be sure you have the correct antenna
	Antennas are not connected properly	Check connections
Occasional cracking noise during FM reception	Ignition noise from automobiles	Move the antenna farther from automobile traffic
Remote control does not work	There is an obstruction in front of the remote sensor on the receiver	Remove the obstruction
	Batteries are weak	Replace batteries

Specifications

Amplifier

Output Power
- At Stereo operation: **50 watts per channel, min. RMS, driven into 8 ohms, 40 Hz to 20 kHz with no more than 0.8% total harmonic distortion.**
- At Surround operation
  - Front channels: 50 watts per channel, min. RMS, driven into 8 ohms at 1 kHz with no more than 0.8% total harmonic distortion.
  - Center channel: 50 watts, min. RMS, driven into 8 ohms at 1 kHz, with no more than 0.8% total harmonic distortion.
  - Rear channels: 50 watts, min. RMS, driven into 8 ohms at 1kHz, with no more than 0.8% total harmonic distortion

Total Harmonic Distortion (8 ohms, 1 kHz): 0.8%* at 50 watts output (*Measured by JVC Audio Analysis System)

Frequency Response (8 ohms)	TV SOUND, CD, TAPE, VCR, VIDEO	20 Hz to 20 kHz (±1 dB)
Audio Input Sensitivity/Impedance (1 kHz)	TV SOUND, CD, TAPE, VCR, VIDEO	200 mV/47 k ohms
Audio Output Level	TAPE, VCR	200 mV
Signal-to-Noise Ratio ('66 IHF/'78 IHF)	TV SOUND, CD, TAPE, VCR, VIDEO	87 dB/80 dB
Loudness control (Volume Control at -40 dB)	+5 ±2 dB at 100 Hz	
Video Input Sensitivity/Impedance	VCR, VIDEO	1 Vp-p/75 ohms
Video Output Level	VCR, MONITOR OUT	1 Vp-p (at 1 Vp-p input), sync negative
Signal-to-Noise Ratio		45 dB

FM tuner (IHF)

Tuning Range		87.5 MHz to 108.0 MHz
Usable Sensitivity		10.8 dBf (0.95 µV/75 ohms)
50 dB Quieting Sensitivity	Monaural	16.3 dBf (1.8 µV/75 ohms)
	Stereo	38.3 dBf (22.5 µV/75 ohms)
Signal-to-Noise Ratio (IHF-A weighted)	Monaural	80 dB at 85 dBf
	Stereo	73 dB at 85 dBf
Total Harmonic Distortion	Monaural	0.15 % at 1 kHz
	Stereo	0.2 % at 1 kHz
Stereo Separation at REC OUT		40 dB at 1 kHz
Capture Ratio		1.5 dB (10 mV)
Alternate Channel Selectivity		60 dB: (±400 kHz)
Frequency Response		30 Hz to 15 kHz: (+0.5 dB, -3 dB)

AM tuner

Tuning Range		530 kHz to 1,710 kHz
Usable Sensitivity	Loop antenna	300 µV/m
	External antenna	30 µV
Signal-to-Noise Ratio		50 dB (100 mV/m)

General

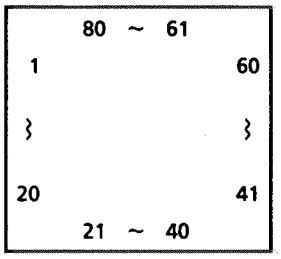
Power Requirements	AC 120V~, 60 Hz
Power Consumption	160 watts/210 VA 5 watts (in standby mode)
Dimensions (W x H x D)	15 3/4 x 5 x 15 1/4 inches (400 x 127 x 400 mm)
Mass	16.5 lbs (7.5 kg)

Design & specifications are subject to change without notice

Description of Major LSIs

■ MN173222JAAM (IC401) : System Controller

1. Terminal Layout



2.Key Matrix

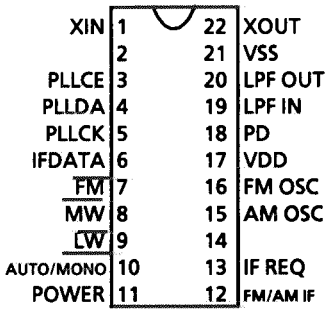
	KEY IN 0 (PIN2)	KEY IN 1 (PIN3)	KEY IN 2 (PIN4)	KEY IN 3 (PIN5)
KEY OUT 0 (PIN6)	POWER (S401)	--	--	--
KEY OUT 1 (PIN7)	SURROUND / DAP (S402)	PRESET SEA (S403)	TUNER/BAND (S404)	SETTING (S405)
KEY OUT 2 (PIN8)	SOURCE (S406)	ADJUST (S407)	ONE TOUCH OPERATION (S408)	MEMORY (S409)
KEY OUT 3 (PIN9)	← (S410)	→ (S411)	↑ (S412)	↓ (S413)
KEY OUT 4 (PIN10)	MOVIE (S414)	SPORTS (S415)	MUSIC (S416)	--

2. Description

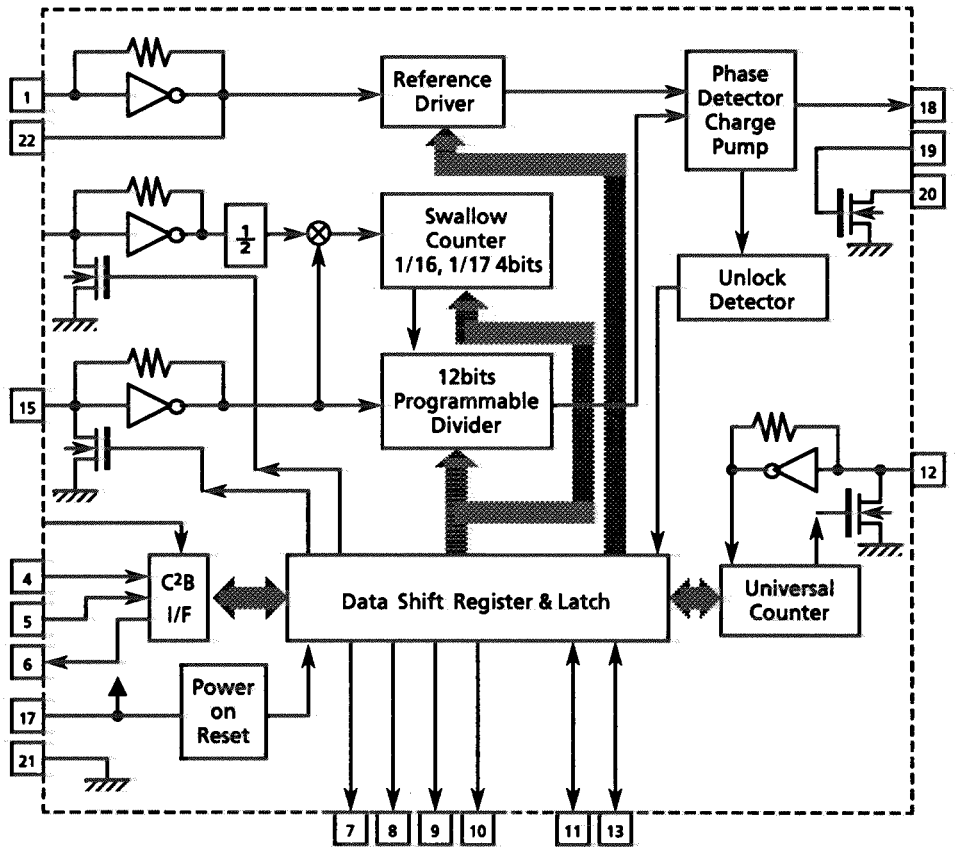
Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	IN1	I	JOG VOL. control	43	DATA	O	Data signal to IC201,202,252,321,601
2	IN2	I	JOG VOL. control	44	INH	I	Inhibit signal input
3	VIDEO1	O	Video select signal	45	RDS CLK	--	Pull Down
4	VIDEO2	O	Video select signal	46	RDS DATA	--	Pull Down
5	STD.I	O	STANDBY indication control	47	RDS RESET	--	Pull Down
6	STB3	O	Load strobe signal to IC202	48	RM	I	Remocon signal for IC402
7	KI0	I	Key matrix in	49	D-START	--	Pull Down
8	KI1	I	Key matrix in	50	STEREO	I	STEREO signal input
9	KI2	I	Key matrix in	51	TUNED	I	Tunig signal input
10	KI3	I	Key matrix in	52	CE	O	Chip enable to IC121
11	VCR S/C	I	VCR S/C select signal	53	CK	O	Clock signal to IC121
12	G11	O	Grid control signal	54	DI	I	Data signal for IC121
13	G10	O	Grid control signal	55	DO	O	Data signal to IC121
14	G9	O	Grid control signal	56	DCSI	I	COMPULINK signal input
15	G8/KO0	O	Grid control signal (Key matrix out)	57	DCSO	O	COMPULINK signal output
16	G7/KO1	O	Grid control signal (Key matrix out)	58	STB2	O	Load strobe signal to IC201
17	G6/KO2	O	Grid control signal (Key matrix out)	59	POWER	O	POWER ON/OFF control
18	G5/KO3	O	Grid control signal (Key matrix out)	60	SURR	O	SURROUND ON/OFF control
19	G4/KO4	O	Grid control signal (Key matrix out)	61	STB5	O	Load strobe signal to IC601
20	G3	O	Grid control signal	62	T.MUTE	O	Tuner mute signal output
21	G2/KO6	O	Grid control signal (Key matrix out)	63	S.MUTE	O	SORCE muteing control
22	G1/KO7	O	Grid control signal (Key matrix out)	64	TV CONT.	O	AV COMPULINK
23	V_{PP}	--	Power supply for FL display	65	TV OUT	O	AV COMPULINK
24	S1	O	Segment control signal	66	VCR OUT	O	AV COMPULINK
25	S2	O	Segment control signal	67	VCR IN	I	AV COMPULINK
26	S3	O	Segment control signal	68	RESET IN	I	System reset signal input
27	S4	O	Segment control signal	69	X1	--	Connect to GND
28	S5	O	Segment control signal	70	X2	--	Not used
29	S6	O	Segment control signal	71	V_{SS}	--	Connect to GND
30	S7	O	Segment control signal	72	OSC2	--	Oscillation terminal
31	S8	O	Segment control signal	73	OSC1	--	Oscillation terminal
32	S9	O	Segment control signal	74	V_{DD}	--	Power supply
33	S10	O	Segment control signal	75	SET.I	O	SETTING indication control
34	S11	O	Segment control signal	76	ADJ.I	O	ADJUST indication control
35	S12	O	Segment control signal	77	SURR.I	O	SURROUND indication control
36	S13	O	Segment control signal	78	SOUCE.I	O	SOURCE indication control
37	S14	O	Segment control signal	79	SEA.I	O	SEA indication control
38	S15	O	Segment control signal	80	BAND.I	O	BAND indication control
39	S16	O	Segment control signal	81	MUSIC.I	O	MUSIC indication control
40	STB1	O	Load strobe signal to IC321	82	SPORTS.I	O	SPORTS indication control
41	CLK	O	Clock signal to IC201,202,252,321,601	83	MOVIE.I	O	MOVIE indication control
42	STB4	O	Load strobe signal to IC252	84	ONE.I	O	ONE TOUCH OP. indication control

■ LC72131 (IC102) : PLL Synthesizer

1. Terminal Layout



2. Block Diagram

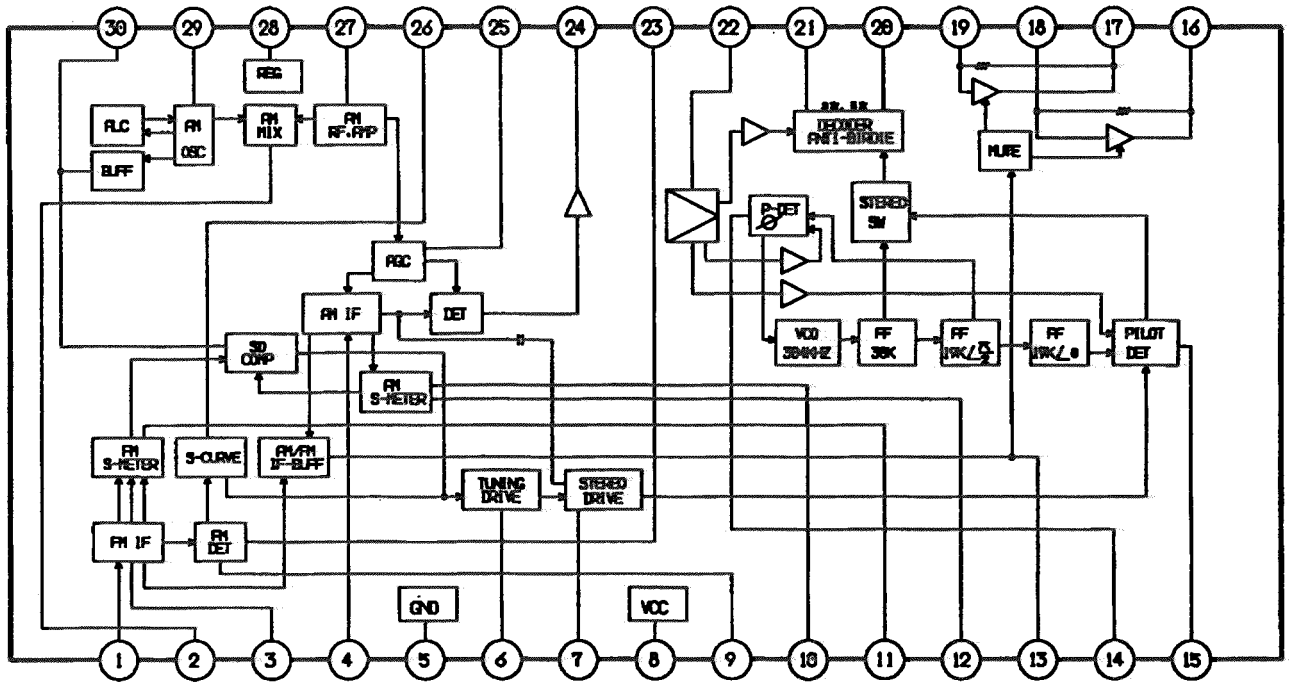


3. Pin Functions

Pin No.	Symbol	I/O	Functions	Pin No.	Symbol	I/O	Functions
1	X in	I	Crystal oscillator (7.2MHz).	12	FM/AM IF	I	Universal counter input
2		–	Not nse	13	IF REQ	O	Output the "IF-signal request" to IC102
3	PLLCE	I	Fix the chip enable to "H" when inputting(DI) and outputting (DO) the serial data	14		I	Not use
4	PLLDA	I	Receive the control data from the controller (IC201).	15	AMOSC		Input the local oscillator signal of AM.
5	PLLCK	I	This clock is used to synchronize data when transmitting the data of DI and DO.	16	FM OSC	I	Input the local oscillator signal of FM.
6	IFDATA	O	Transmit the data from LC72131 to the controller which is synchronized with CK.	17	VDD	O	This is a terminal of power supply.
7	$\overline{FM}$	O	It is "L" on FM mode.	18	PD	O	PLL charge pump output : When the local oscillator signal frequency is higher than the reference frequency high level signals will output. When it is lower than the reference frequency, low level signals will output. When it is same as reference frequency signals, it will be floating.
8	$\overline{MW}$	O	It is "L" on MW mode.	19	LPF IN	I	Transistor used for the PLL active low-pass filterr
9	$\overline{LW}$	O	It is "L" on LW mode.	20	LPF OUT	O	Transistor used for the PLL active low-pass filterr
10	$\overline{AUTO}$ / $\overline{MONO}$	O	It is "L" on monaural, "H" on auto.	21	VSS	–	Connected to GND
11	POWER	O	Regulator control singal P ON "H", STANDBY "L"	22	X out	O	Crystal oscillator (7.2MHz).

■ LA1837 (IC102) : FM AM IF AMP & detector, FM MPX Decorder

1. Block Diagram

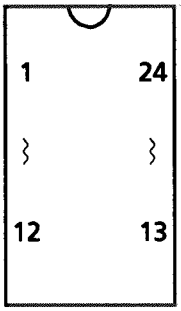


3. Pin Function

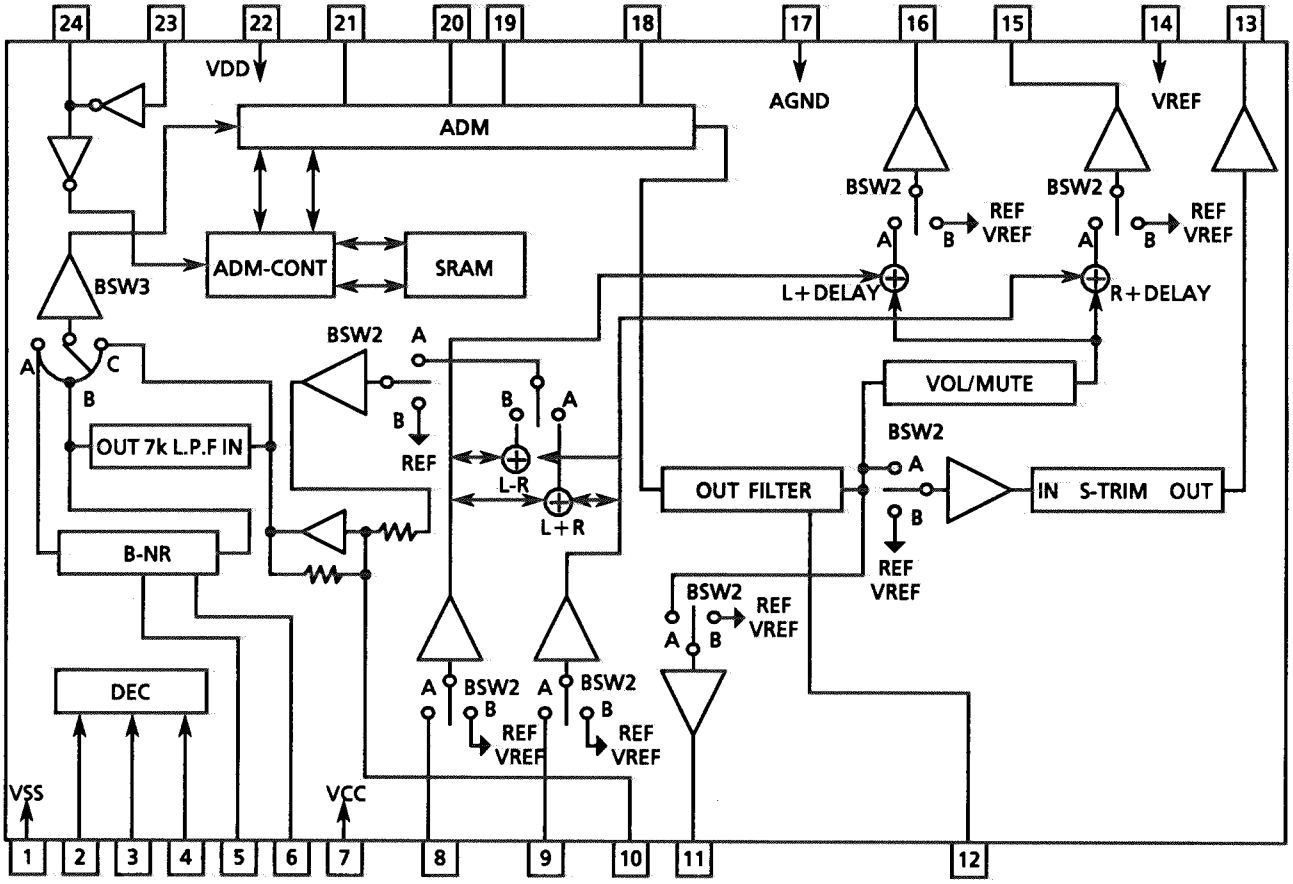
Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	FM IN	I	This is an input terminal of FM IF Signal.	16	L OUT	O	Left channel signal output.
2	AM MIX	O	This is an output terminal for AM mixer.	17	R OUT	O	Right channel signal output
3	FM IF	I	Bypass of FM IF	18	L IN	I	Input terminal of the Left channel post AMP.
4	AM IF	I	Input of AM IF Signal.	19	R IN	I	Input terminal of the Right channel post AMP.
5	GND	—	This is the device ground terminal.	20	RO	O	Mpx Right channel signal output.
6	TUNED	O	When the set is tunning , this terminal becomes "L".	21	LO	O	Mpx Left channel signal output.
7	STEREO	O	Stereo indicator output. Stereo : "L", Mono : "H"	22	IF IN	I	Mpx input terminal.
8	VCC	—	This is the power supply terminal.	23	FM OUT	O	FM detection output.
9	FM DET	—	FM detect transformer.	24	AM DET	O	AM detection output.
10	AM SD	—	This is a terminal of AM ceramic filter.	25	AM AGC	I	This is an AGC voltage input terminal for AM.
11	FM VSM	O	Adjust FM SD sensitivity.	26	AFC	—	This is an output terminal of voltage for FM-AFC.
12	AM VSM	O	Adjust AM SD sensitivity.	27	AM RF	I	AM RF signal input.
13	MUTE	I/O	When the signal of IF REQ of IC121(LC72131) appear, the signal of FM/AM IF output. //Muting control input.	28	REG	O	Register value between pin26 and pin28 desides the frequency width of the input signal.
14	FM/AM	I	Change over the FM / AM input. "H" : FM, "L" : AM	29	AM OSC	—	This is a terminal of AM Local oscillation circuit.
15	MONO/ST	O	Stereo : "H", Mono : "L"	30	OSC BUFFER	O	AM Local oscillation Signal output.

■ LV1015 (IC641) : Dolby Surround Passive Decoder

1. Terminal Layout



2. Block Diagram

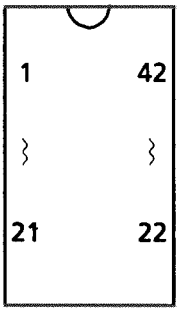


3. Pin Functions

Pin No.	Symbol	I/O	Functions
1	DGND	--	Digital GND
2	CLK	I	Serial interface clock
3	DATA	I	Serial interface data input
4	STB	I	Strobe signal input
5	NR-DET	--	Capacitor for noise reduction detection
6	NR-IREF	--	Resistor for noise reduction reference current
7	VCC	--	Supply
8	L-IN	I	Left channel signal input
9	R-IN	I	Right channel signal input
10	S-IN	I	Surround signal input
11	DELAY-OUT	--	Not used
12	DC-CUT	--	Capacitor for DC-cut
13	S-OUT	O	Surround signal output
14	VREF	--	Analog reference voltage
15	R-MIX-OUT	--	Not used
16	L-MIX-OUT	--	Not used
17	ADND	--	Analog ground
18	DC-CUT	--	Capacitor for DC-cut
19	D/A	--	Capacitor for integrator
20	NOISE SHAPER	--	Capacitor for noise shaper
21	A/D	--	Capacitor for integrator
22	VDD	--	Supply for the digital section
23	OSC	--	Oscillation terminal
24	OSC	--	Oscillation terminal

■ LA2786 (IC601) : Dolby Pro Logic Surround Signal Processor

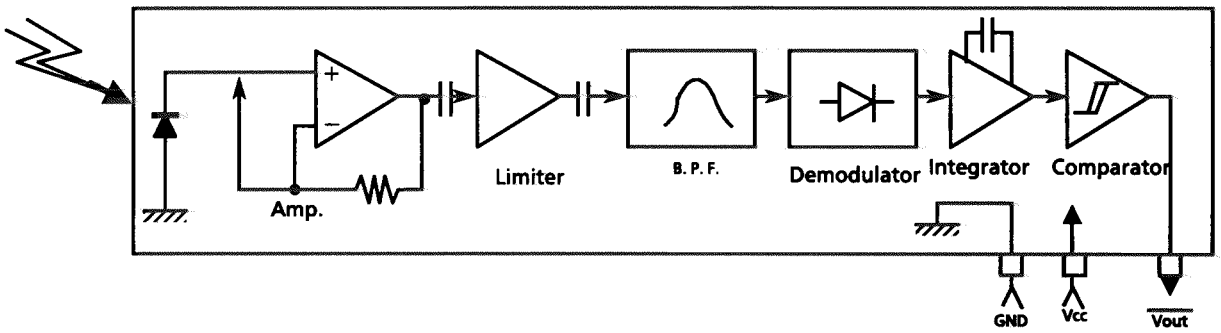
1. Terminal Layout



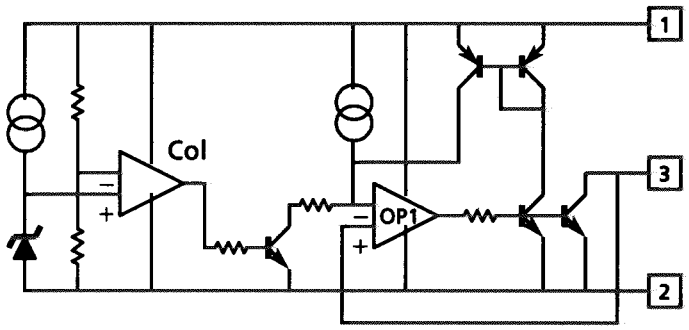
2. Pin Functions

Pin No	Symbol	I/O	Functions	Pin No	Symbol	I/O	Functions
1	NS-BPF1	--	Capacitor for spectrum filter in noise sequencer	22	VCS-1	--	Capacitor for time constant (in log differential area)
2	NS-BPF2	--	Capacitor for spectrum filter in noise sequencer	23	VCS-2	--	Capacitor for time constant (in log differential area)
3	VREF	--	Analog reference voltage	24	VCS-TH	--	Capacitor for time constant (in log differential area)
4	S-DC-OUT	--	Capacitor for DC-cut Sch	25	L+R RECT	--	Capacitor for Center channel detection
5	C-DC-OUT	--	Capacitor for DC-cut Cch	26	DC-CUT	--	Capacitor for DC-cut at detection circuit
6	L-DC-OUT	--	Capacitor for DC-cut Lch	27	L−R RECT	--	Capacitor for Surround channel detection
7	R-DC-OUT	--	Capacitor for DC-cut Rch	28	DC-CUT	--	Capacitor for DC-cut at detection circuit
8	VREF-BUFFER	--	VREF low impedance	29	R-BPF3	--	LPF,HPF for Right channel control circuit
9	L-IN	I	Left channel signal input	30	R-BPF2	--	LPF,HPF for Right channel control circuit
10	R-IN	I	Right channel signal input	31	R-BPF1	--	LPF,HPF for Right channel control circuit
11	GND	--	Ground	32	C-TRIM DC-CUT	--	Capacitor for DC-cut Center channel
12	L-BPF1	--	LPF,HPF for Lch control circuit	33	C-MODE-CAP	--	Capacitor for Center channel output low-pass filter
13	L-BPF2	--	LPF,HPF Left channel control circuit	34	C-OUT	O	Center signal output
14	L-BPF3	--	LPF,HPF Left channel control circuit	35	S-OUT	O	Surround signal output
15	DC-CUT	--	Capacitor for DC-cut at detection circuit	36	R-OUT	O	Right channel signal output
16	R RECT	--	Capacitor for Right channel detection	37	L-OUT	O	Left channel signal output
17	DC-CUT	--	Capacitor for DC-cut at detection circuit	38	VCC	--	power supply
18	L RECT	--	Capacitor for Left channel detection	39	OSC	--	Oscillation for noise sequencer and auto balance
19	VLR-TH	--	Capacitor for time constant (in log differential area)	40	STB	I	Strobe signal input
20	VLR-2	--	Capacitor for time constant (in log differential area)	41	DATA	I	Serial interface data input
21	VLR-1	--	Capacitor for time constant (in log differential area)	42	CLK	I	Serial interface clock

■ GP1U501X (IC402) : Receiver for remote controller

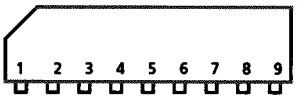


■ PST600E (IC403) : Reset IC

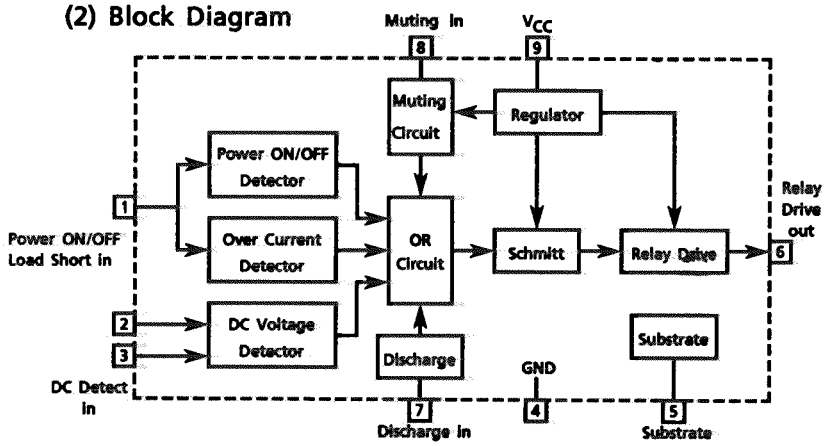


■ TA7317P (IC901) : PROTECTOR IC

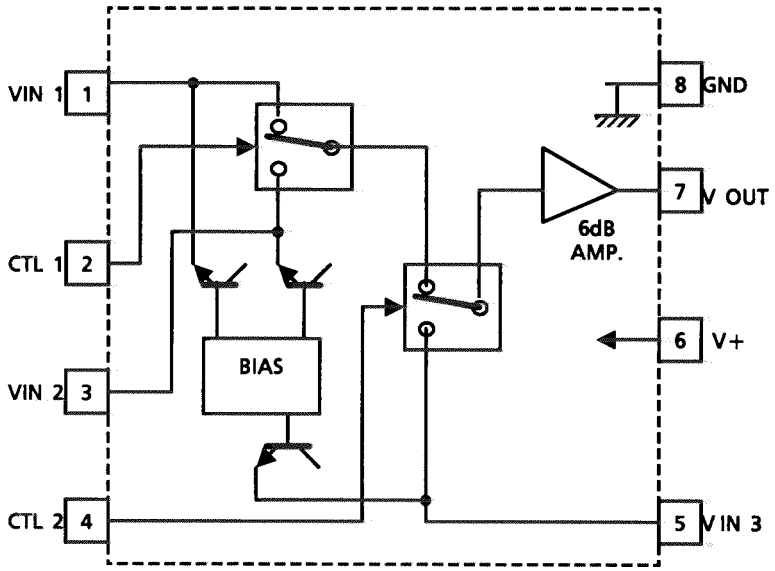
(1) Terminal Layout



(2) Block Diagram



■ NJM2246D (IC671) : Video Switch

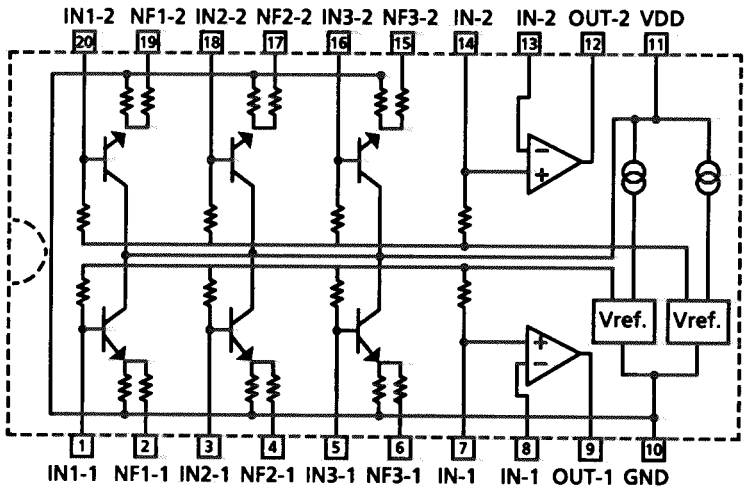


Control Signal—OutputSignal

CTL 1	CTL 2	Output
L	L	V IN 1
H	L	V IN 2
L / H	H	V IN 3

■ M5243P (IC551) : S.E.A. Graphic Equalizer

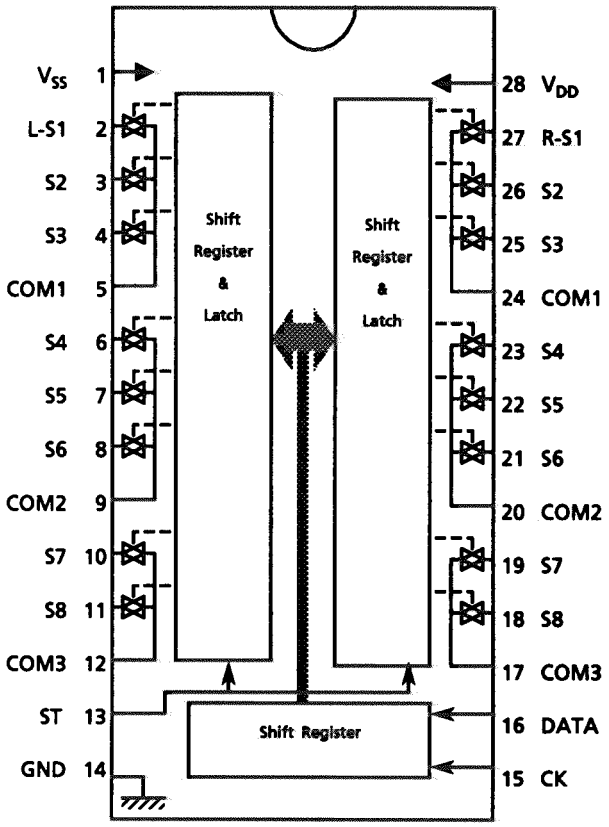
1. Functions
   It makes inductive characteristic instead of coil.
2. Block Diagram



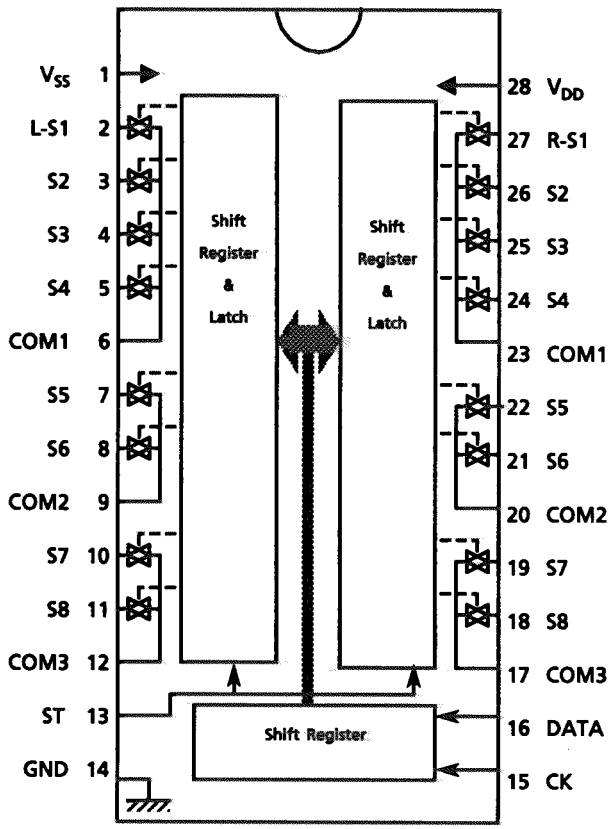
■TC9163AN(IC252), TC9164AN(IC321) : Analog Switch

1. Functions
   These analog switches are controlled by 14 bit serial date from computer for selecting the source.

2. Terminal Layout & Block diagram



TC9163AN



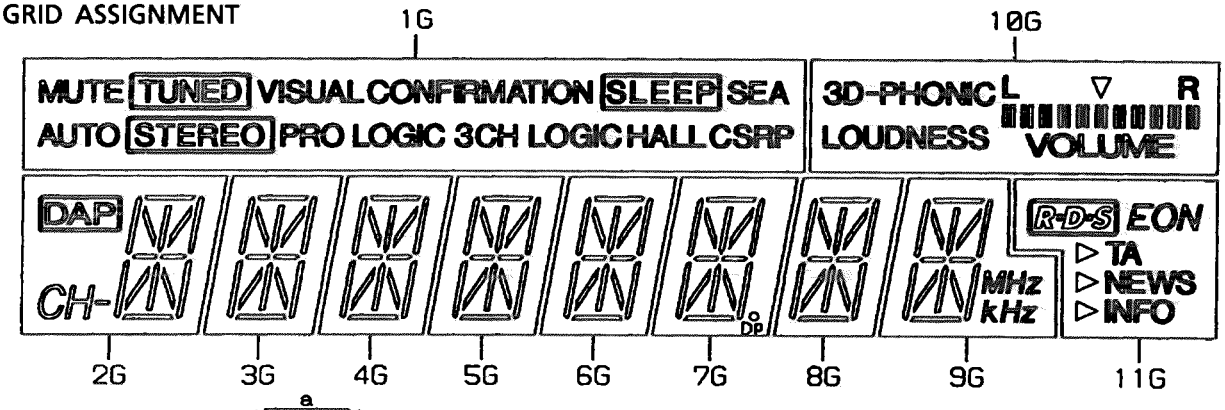
TC9164AN

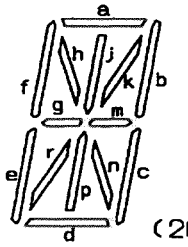
3. First 10bits are used to source select. Last 4bits are chip select. The switches (S1~S8) are connected to common terminals (COM1~COM3) according tothe DATA from computer.

	Chip Select Bit			
	S11	S12	S13	S14
TC9163AN	1	0	0	0
TC9164AN	0	1	0	0

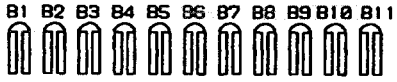
Internal Connections for FL Display Tube

GRID ASSIGNMENT





(2G~9G)



(10G)

ANODE CONNECTION

	1G	2G	3G~6G	7G	8G	9G	10G	11G
P1	MUTE AUTO	a	a	a	a	a	B1	R-D-S
P2	TUNED	b	b	b	b	b	B2	EON
P3	STEREO	j	j	j	j	j	B3	▷TA
P4	VISUAL CONFIRMATION	k	k	k	k	k	B4	▷NEWS
P5	SLEEP	h	h	h	h	h	B5	▷INFO
P6	CSRP	f	f	f	f	f	B6	-
P7	-	m	m	m	m	m	B7	-
P8	-	g	g	g	g	g	B8	-
P9	HALL	c	c	c	c	c	B9	-
P10	3CH LOGIC	n	n	n	n	n	B10	-
P11	-	r	r	r	r	r	B11	-
P12	-	p	p	p	p	p	LOUDNESS	-
P13	PRO LOGIC	e	e	e	e	e	VOLUME	-
P14	-	d	d	d	d	d	L R	-
P15	SEA	CH-	-	Dp	-	MHz	3D-PHONIC	-
P16	-	DAP	-	-	-	kHz	▽	-

PIN CONNECTION

PIN NO.	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01
CONNECTION	F2	F2	NP	NP	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NC	NC	NC	NC	P12	P23	P34	P45	P56	P67	P78	P89	P90	P10	P11	P12	P13	P14	P15	P16	NP	NP	F1	F1

NOTE 1) F1,F2 --- Filament
2) NP ------ No Pin
3) NC ------ No connection
4) DL ------ Datum Line
5) 1G~11G --- Grid

Disassembly Procedures

■ Top cover removal
1. Remove 4 screws Ⓐ on both sides of the top cover and 3 screws Ⓑ on the rear side.(FIG.1)
2. Lift the back of the top cover spreading both sides to remove.

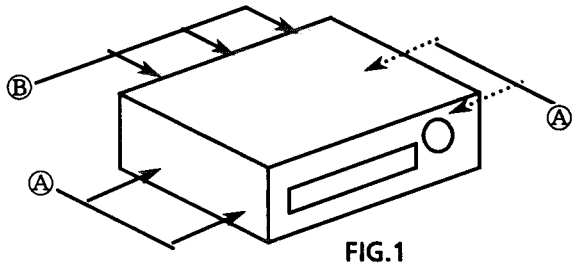


FIG.1

■ Front panel assembly removal
1. Remove the top cover.
2. Remove 3 screws Ⓚ on the bottom side and 3 screws Ⓒ on the top side.(FIG.2,4)
3. Disconnect the wires CN304 and CN801.
4. Remove 2 hooks on both sides of the front panel assembly.
5. Remove the front panel assembly.

■ Rear panel removal
1. Remove the top cover.
2. Remove 17 screws Ⓕ,Ⓖ,Ⓗ and Ⓘ. (Remove 2 screws Ⓙ .Universal version only)(FIG.3)
3. Remove the power cord stopper up side.
4. Remove the rear panel.

■ Video P.C.Board removal
1. Remove the top cover.
2. Remove 5 screws Ⓓ and Ⓕ.(FIG.2,3)
3. Disconnect the connector CN601.
4. Remove the video P.C.Board(ENC-134-2).

■ Tuner P.C.Board removal
1. Remove the top cover.
2. Remove 2 screws Ⓖ.(FIG.3)
3. Disconnect the connector CN101.
4. Remove the tuner P.C.Board(ENA-178).

■ Main amp. P.C.Board with same P.C.Board and front bracket removal
1. Remove the top cover.
2. Remove the front panel assembly.
3. Cut the tiy band FW801.
4. Remove 6 screws Ⓔ.(FIG.2)
5. Remove 3 screws Ⓘ.(FIG.3)
6. Remove 6 screws Ⓛ.(FIG.4)
7. Lift the right side of the P.C.Board ass'y to remove the bottom base.

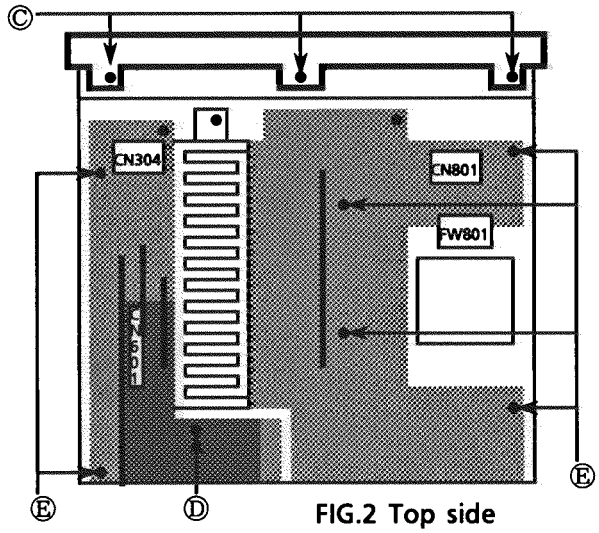


FIG.2 Top side

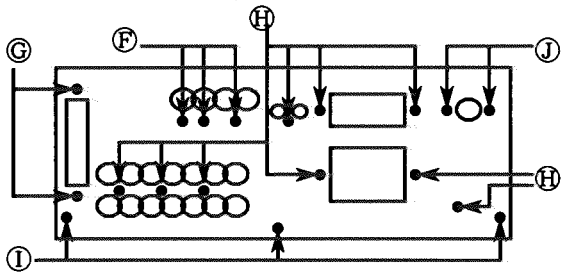


FIG.3 Rear side

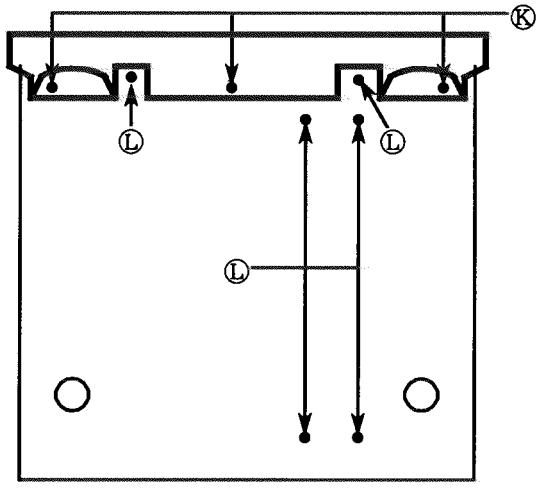


FIG.4 Bottom side

■ Front P.C. Board removal

1. Remove the top cover.
2. Remove the front panel assembly.
3. Remove the master volume knob and nut.
4. Remove 9 screws Ⓜ.(FIG.5)
5. Remove the front P.C. Board.

■ Power Transistor removal

1. Remove the top cover.
2. Remove the front panel assembly.
3. Remove the main amp. P.C.Board with same P.C.Board.
4. Unsolder the broken transistor.
5. Remove the some screws Ⓝ fastening it.(FIG.6)

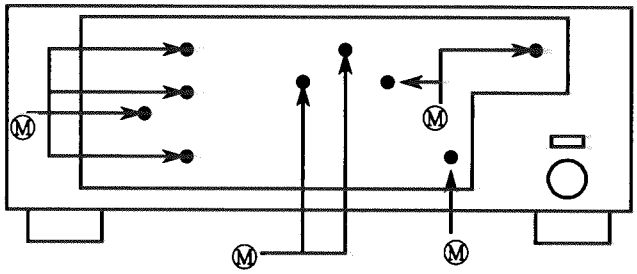


FIG.5 Front panel ass'y rear side

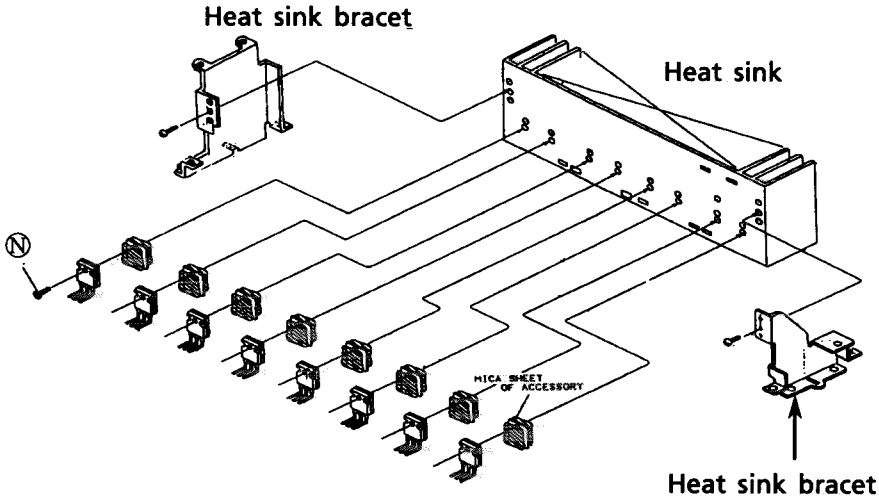
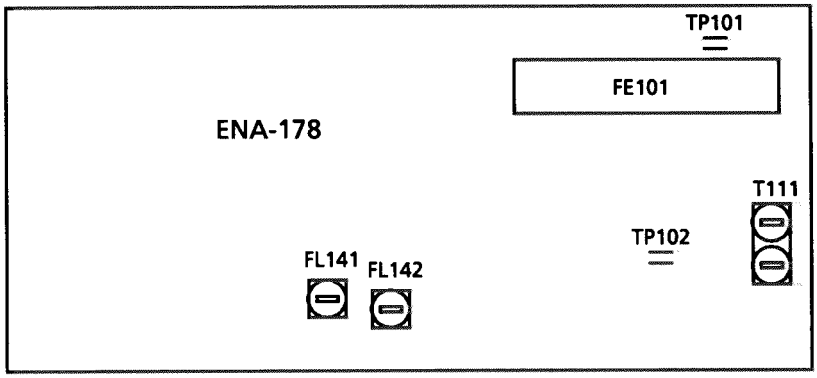


FIG.6

ADJUSTMENT PROCEDURES

■ Tuner section



Tuning range

Area	Range	
	MW (kHz)	FM (MHz)
the U.S.A,Canad	530~1710	87.5~108.0
Universal type(AM Channel space 9kHz)	531~1602	87.5~108.0
Universal type(AM Channel space 10kHz)	530~1600	87.5~108.0

(1) Tuning Voltage
Confirm the voltages in the table at TP101.

FM Tuning voltage (Unit : V)

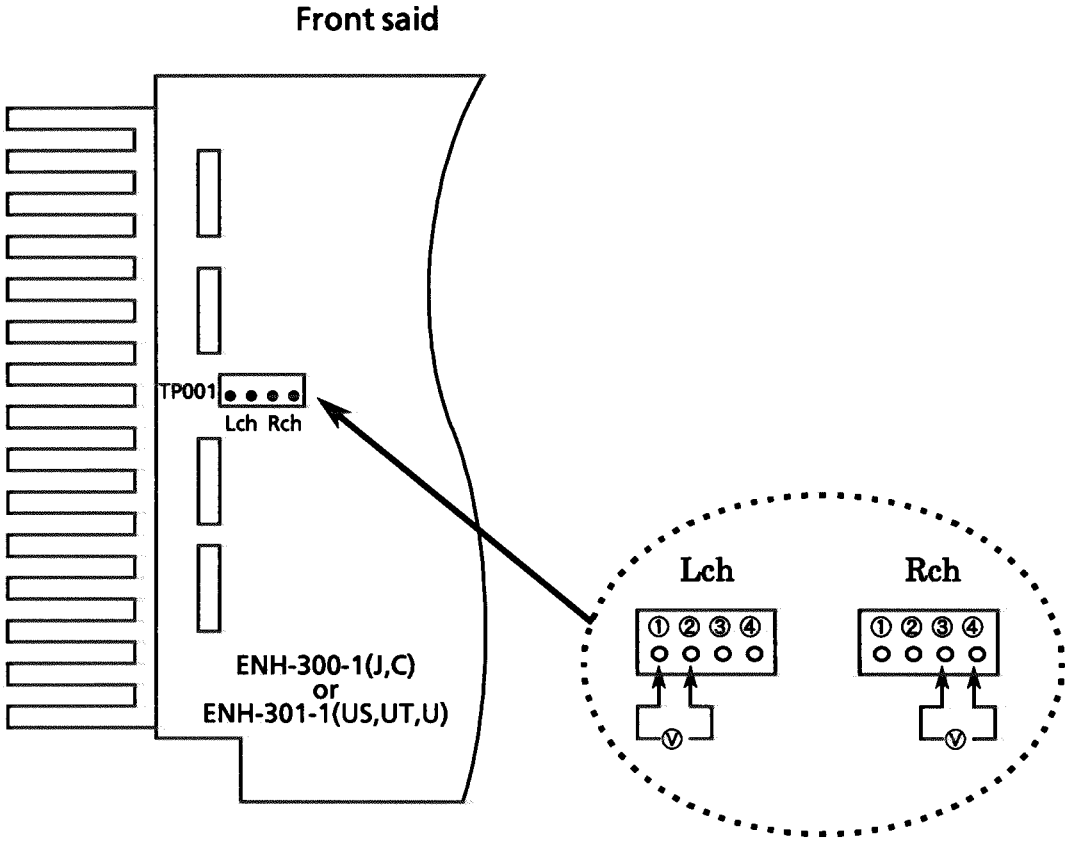
Area	Frequency	
	87.5MHz	108MHz
All Area	1.6±1.0	8.0±2.0

AM Tuning voltage (Unit : V)

Area	Frequency (MW)					
	530KHz	531KHz	1600KHz	1602KHz	1629KHz	1710KHz
the U.S.A,Canad	>0.8	—		—	—	<8.8
Universal (Chanel space9kHz)	—	>0.8	—	<7.9	—	—
Universal (Chanel space10kHz)	>0.8	—	<7.9	—	—	—

(2) FM Center meter
Receive a broadcast by using the function of 'AUTO STOP'.
Adjust T141 (Detector coil) so that the voltage at TP102 becomes 0±1.5mV.

■ Power Amplifier section

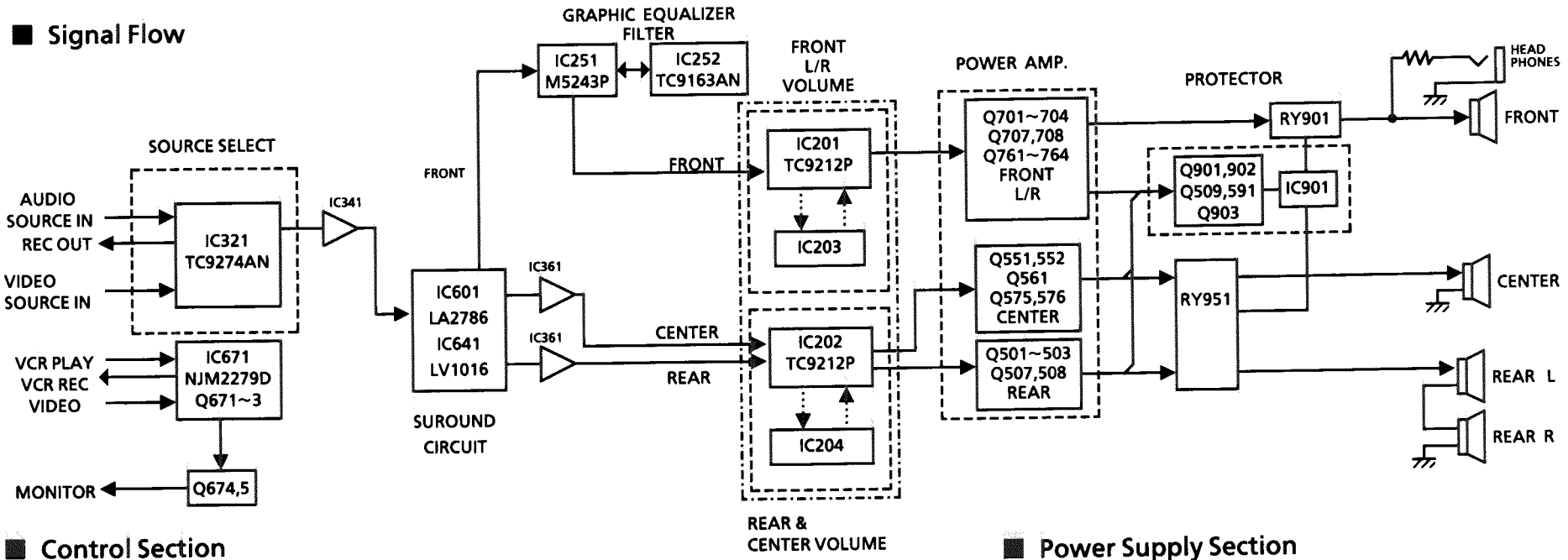


■ Idling current

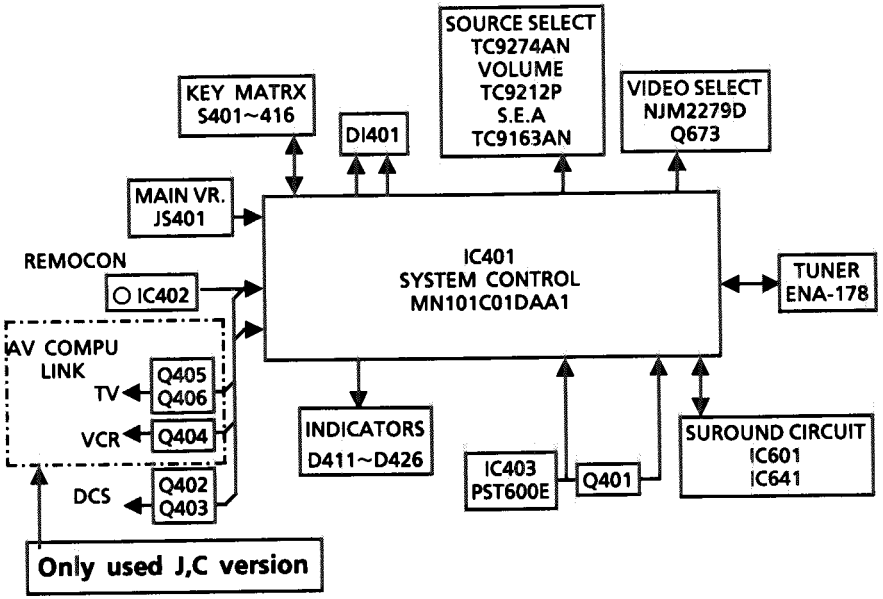
(1) Set the volume control to minimum during this adjustment.Set the surround mode "OFF".
(2) Turn VR741 and VR742 fully counterclockwise to warm up before adjustment.
If the heatsink is already warm from previous use the correct adjustment can not be made.
(3) For L-ch, connect a DC voltmeter between TP001's pinl and pin2 (Lch).
And, connect it between pin3 and pin4(Rch).
(4) Appox. 30minutes later after power on, adjust VR741 for L-ch , or VR742 for R-ch so that the DC voltmeters value has 1mV~10mV.

The Marks for Designated Areas					
C	Canada	J	the U.S.A		
US	Singapore	UT	Taiwan	U	Universal
No mark indicates all area.					

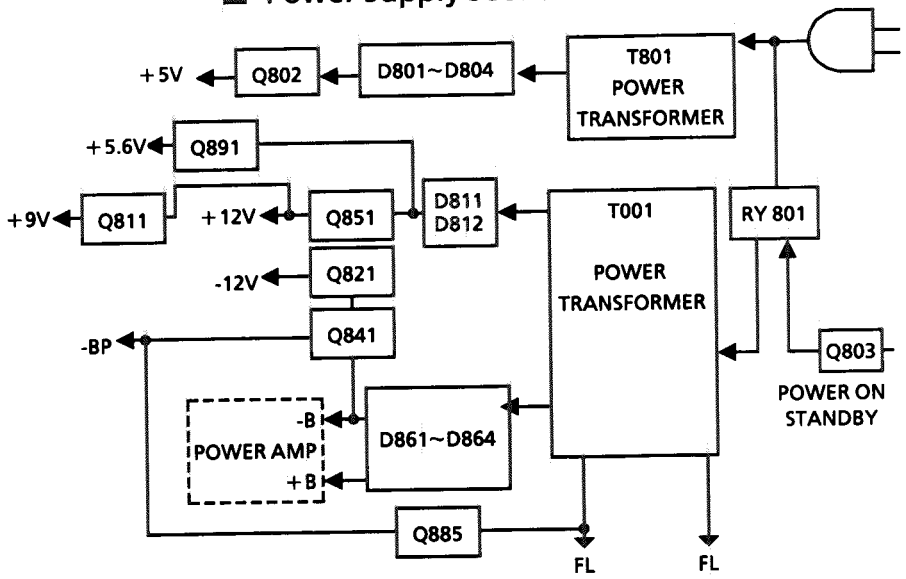
Signal Flow



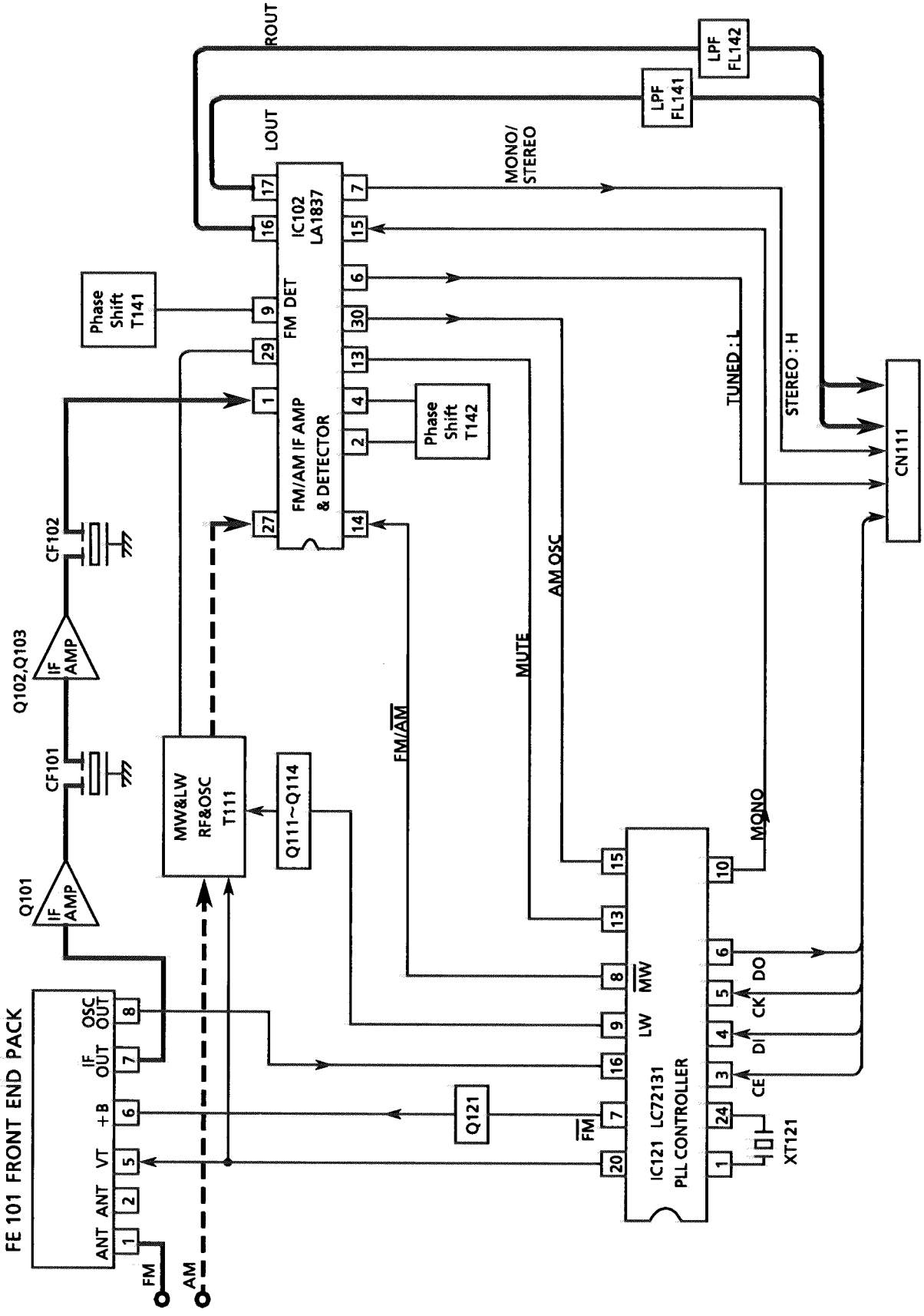
Control Section



Power Supply Section

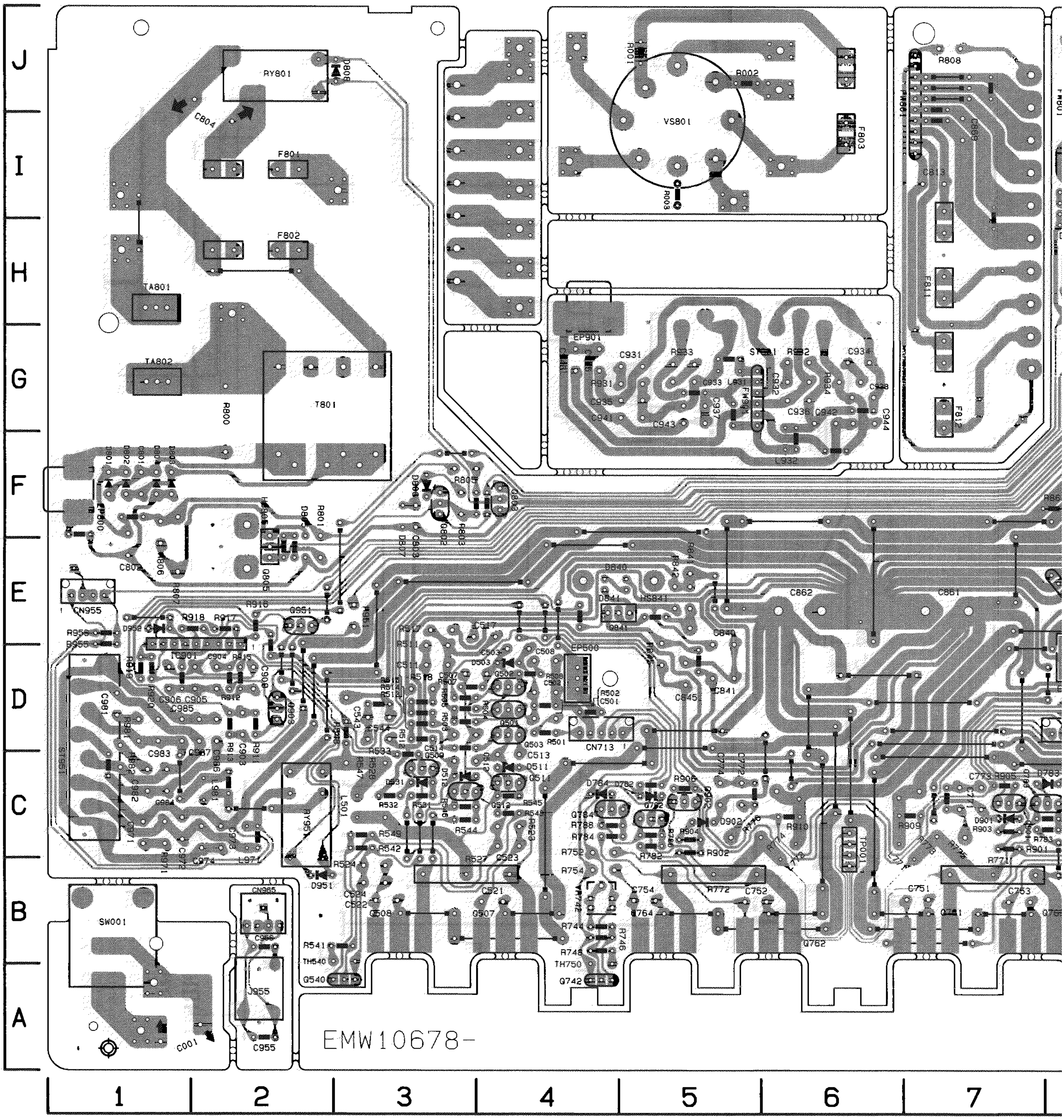


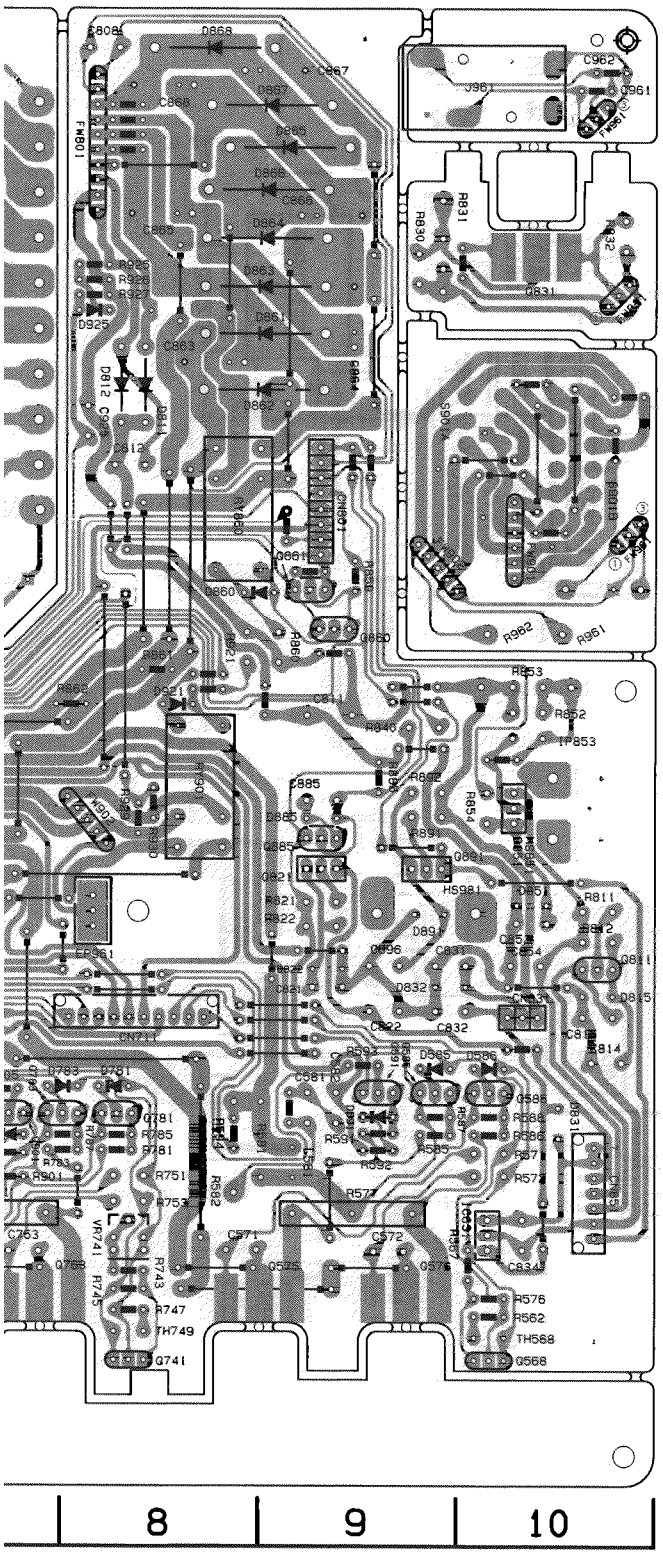
■ Tuner Section



Printed Circuit Boards

MAIN AMP. P.C.BORD(ENH-300) : USED J,C VERSION





Locatin List(ENH-300)

Symbol	X	Y
C	3	F
C001	1	A
C501	3	C
C502	3	C
C503	3	C
C507	3	C
C508	3	C
C511	3	C
C512	3	C
C513	3	C
C514	3	C
C517	3	C
C521	3	B
C522	2	B
C523	3	B
C524	2	B
C543	2	C
C544	2	C
C571	7	B
C572	7	B
C581	7	B
C582	7	B
C751	5	B
C752	4	B
C753	6	B
C754	4	B
C771	5	B
C772	4	B
C773	6	B
C774	4	B
C801	1	D
C802	1	D
C803	2	D
C804	1	G
C808	6	G
C811	7	D
C812	6	E
C813	5	F
C814	8	C
C815	8	C
C821	7	C
C822	7	C
C831	7	C
C832	7	C
C834	8	B
C840	4	C
C841	4	C
C845	4	C
C853	8	C
C854	8	C
C861	5	D
C862	5	D
C863	6	F
C863E	7	F
C864	7	F
C864E	7	F
C865	6	G
C865E	6	G
C866	7	G
C866E	7	G
C867	7	G
C867E	7	G
C868	6	G
C868E	6	G
C869	5	G
C885	7	D
C896	7	C
C903	2	C
C904	1	C
C905	1	C
C906	1	C
C909	2	C

Symbol	X	Y
C925	6	F
C931	4	E
C932	5	E
C933	4	E
C934	5	E
C935	4	E
C936	5	E
C937	4	E
C938	5	E
C941	4	E
C942	5	E
C943	4	E
C944	5	E
C945	3	E
C946	3	E
C955	2	A
C956	2	A
C961	8	G
C962	8	G
C971	1	B
C972	1	B
C973	1	B
C974	1	B
C981	1	C
C982	1	B
C983	1	C
C984	1	B
C985	1	C
C986	1	C
C987	1	C
CC	1	F
CN711	6	C
CN713	4	C
CN801	7	E
CN831	8	C
CN851	8	B
CN955	1	D
CN965	2	A
D503	3	C
D511	3	C
D512	3	B
D531	3	B
D585	7	B
D586	7	B
D591	7	B
D781	6	B
D782	4	B
D783	6	B
D784	4	B
D801	1	D
D802	1	D
D803	1	D
D804	1	D
D805	2	D
D806	3	D
D807	2	D
D808	2	G
D811	6	F
D812	6	F
D815	8	C
D822	7	C
D831	8	B
D832	7	C
D840	3	D
D841	3	D
D851	8	C
D860	7	E
D861	7	F
D862	7	F
D863	7	F
D864	7	F
D865	7	G

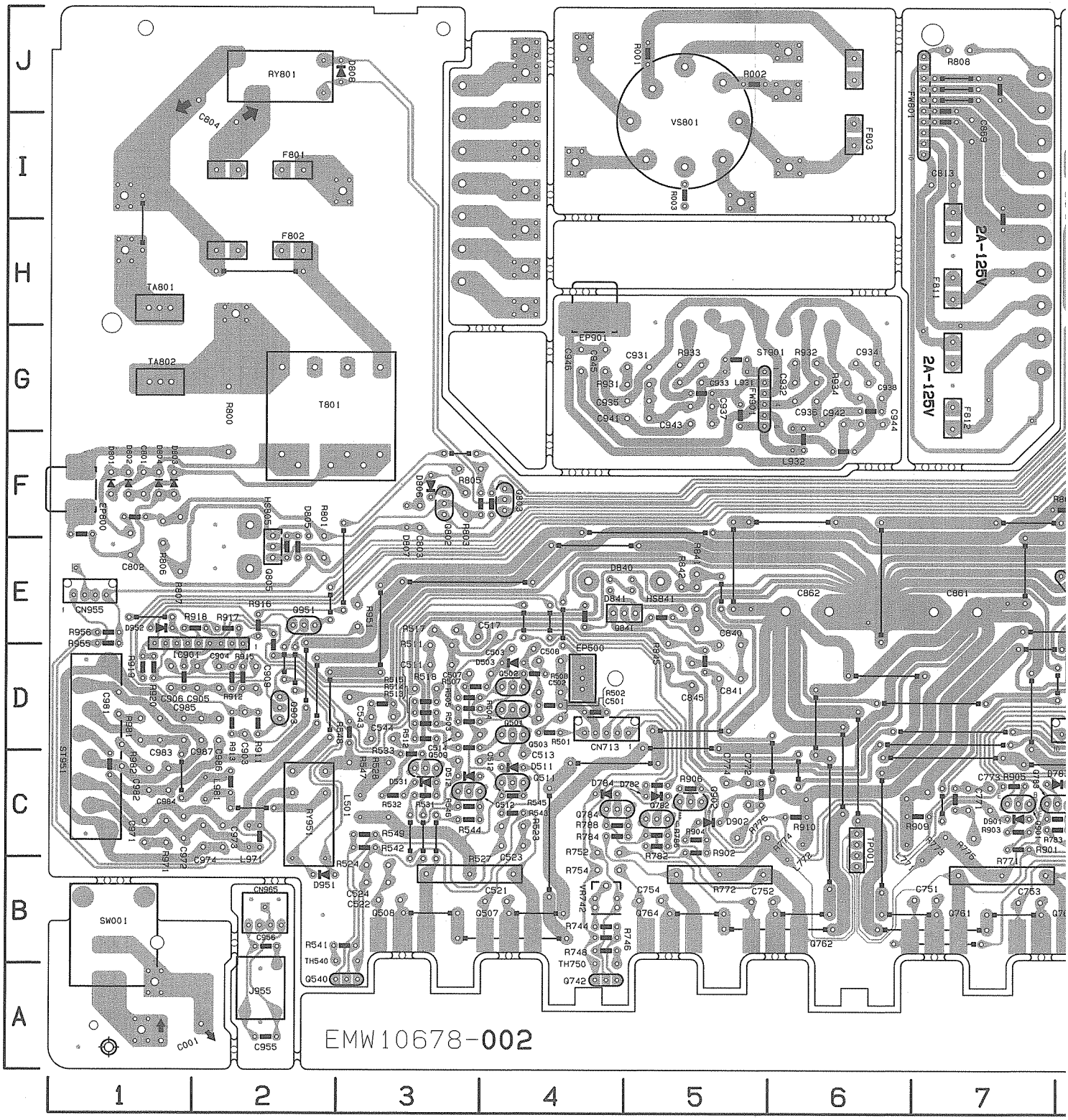
Symbol	X	Y
D866	7	G
D867	7	G
D868	7	G
D885	7	D
D891	7	C
D901	6	B
D902	4	B
D921	6	D
D925	6	F
D951	2	B
D952	1	C
F801	2	F
F802	2	F
F803	5	G
F811	5	F
F812	5	E
FW801	5	G
FW801B	6	G
FW831	8	F
FW901A	4	E
FW901B	8	E
FW902	6	D
FW902B	7	E
FW961	8	G
FW961A	8	E
IC831	8	B
IC901	2	C
IM0751	1	A
IM0751	8	A
IP853	8	D
J955	2	A
J961	7	G
K	3	F
KK	4	G
L	3	F
L501	2	B
L581	7	B
L771	5	B
L772	4	B
L931	4	E
L932	4	E
L971	2	B
L981	1	B
LL	4	G
P	3	G
P1	1	A
P1	2	F
P2	1	A
PP	4	F
Q501	3	C
Q502	3	C
Q503	3	C
Q507	3	A
Q508	2	A
Q509	3	C
Q511	3	B
Q512	3	B
Q540	2	A
Q568	8	A
Q575	7	A
Q576	7	A
Q585	7	B
Q586	8	B
Q591	7	B
Q741	6	A
Q742	3	A
Q761	5	A
Q762	4	A
Q763	6	A
Q764	4	A
Q781	6	B
Q782	4	B

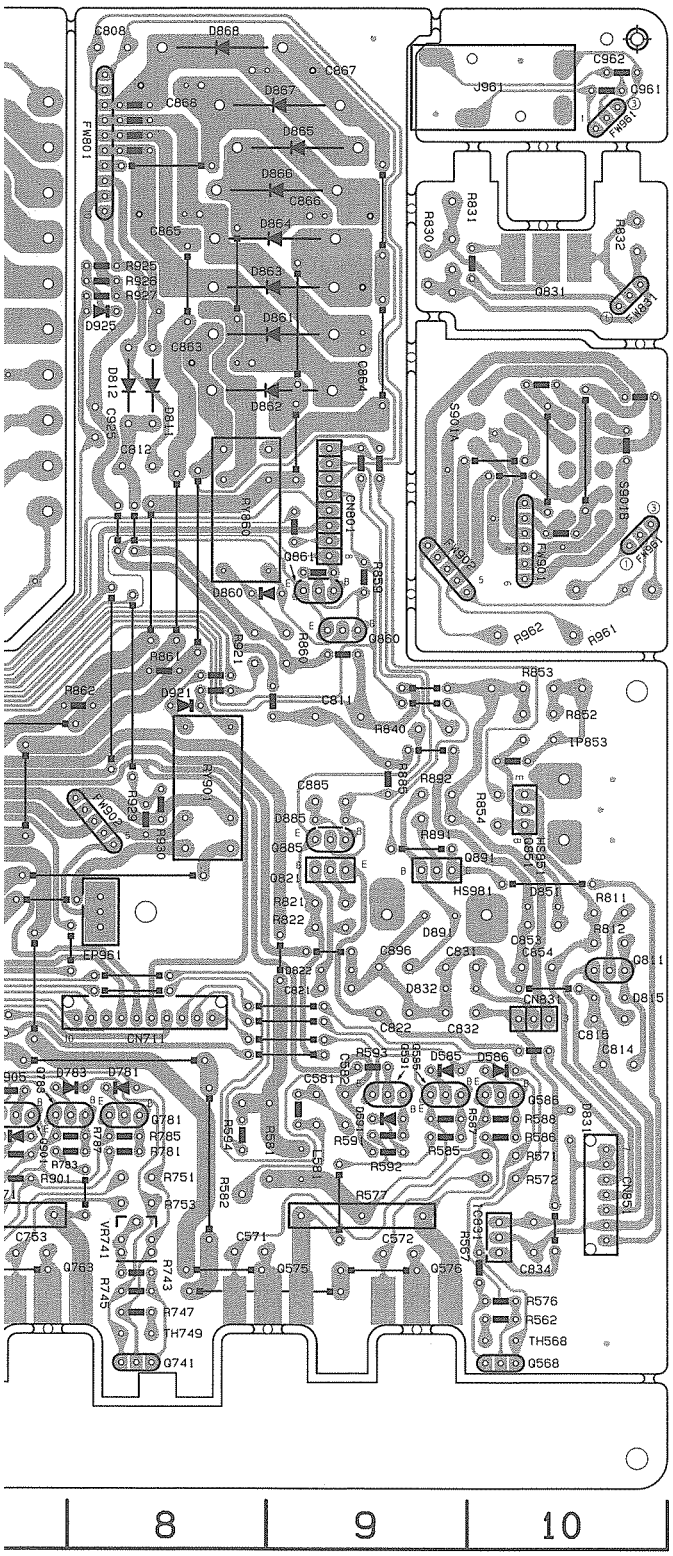
Symbol	X	Y
Q783	6	B
Q784	4	B
Q802	3	D
Q803	3	D
Q805	2	D
Q811	8	C
Q821	7	C
Q831	8	F
Q841	4	D
Q851	8	D
Q860	7	E
Q861	7	E
Q885	7	D
Q891	7	C
Q901	6	B
Q902	4	B
Q903	2	C
Q951	2	C
R001	4	G
R002	4	G
R003	4	F
R501	3	C
R502	3	C
R503	3	C
R504	3	C
R505	3	C
R507	3	C
R508	3	C
R511	3	C
R512	3	C
R513	3	C
R514	2	C
R515	3	C
R517	3	C
R518	3	C
R523	3	B
R524	2	B
R527	3	B
R528	2	B
R531	2	B
R532	2	B
R533	2	C
R541	2	A
R542	2	B
R543	3	B
R544	3	B
R545	3	B
R546	3	B
R547	2	C
R548	2	C
R549	2	B
R562	7	A
R567	7	B
R571	8	B
R572	8	B
R576	7	A
R577	7	B
R581	7	B
R582	7	B
R585	7	B
R586	8	B
R587	7	B
R588	8	B
R591	7	B
R592	7	B
R593	7	C
R594	7	B
R743	6	B
R744	4	A
R745	6	A
R746	3	A
R747	6	A

Symbol	X	Y
R748	3	A
R751	6	B
R752	3	B
R753	6	B
R754	3	B
R771	6	B
R772	4	B
R773	5	B
R774	4	B
R775	5	B
R776	4	B
R781	6	B
R782	4	B
R783	6	B
R784	4	B
R785	6	B
R786	4	B
R787	6	B
R788	3	B
R800	1	E
R801	2	D
R803	3	D
R805	3	D
R806	1	D
R807	1	D
R808	5	G
R811	8	C
R812	8	C
R821	7	C
R822	7	C
R830	7	F
R831	7	G
R831A	7	F
R832	8	G
R840	7	D
R841	4	C
R841E	4	D
R842	4	D
R845	4	C
R852	8	D
R853	8	D
R853A	8	D
R854	8	D
R859	7	E
R860	7	E
R861	6	D
R862	6	D
R885	7	D
R891	7	D
R892	7	D
R901	6	B
R902	4	B
R903	6	B
R904	4	B
R905	6	B
R906	4	B
R909	5	B
R910	5	B
R911	2	C
R912	1	C
R913	1	C
R915	2	C
R916	2	C
R917	2	C
R918	1	C
R919	1	C
R920	1	C
R921	7	D
R925	6	F
R926	6	F
R927	6	F
R929	6	D

Symbol	X	Y
R930	6	D
R931	4	E
R932	5	E
R933	4	E
R934	5	E
R951	2	C
R955	1	C
R956	1	C
R961	8	E
R962	8	E
R971	1	B
R981	1	C
R982	1	C
RY801	2	G
RY860	6	E
RY901	6	D
RY951	2	B
S901A	8	F
S901B	8	F
ST901	4	F
ST951	1	C
SW001	1	B
T801	2	E
TA801	1	F
TA802	1	E
TH540	2	A
TH568	8	A
TH749	6	A
TH750	3	A
TP001	5	B

MAIN AMP. P.C.BORD(ENH-301) : USED US,UT,U VERSION





Locatin List(ENH-301)

Symbol	X	Y
C	3	F
C001	1	A
C501	3	C
C502	3	C
C503	3	C
C507	3	C
C508	3	C
C511	3	C
C512	3	C
C513	3	C
C514	3	C
C517	3	C
C521	3	B
C522	2	B
C523	3	B
C524	2	B
C543	2	C
C544	2	C
C571	7	B
C572	7	B
C581	7	B
C582	7	B
C751	5	B
C752	4	B
C753	6	B
C754	4	B
C771	5	B
C772	4	B
C773	6	B
C774	4	B
C801	1	D
C802	1	D
C803	2	D
C804	1	G
C808	6	G
C811	7	D
C812	6	E
C813	5	F
C814	8	C
C815	8	C
C821	7	C
C822	7	C
C831	7	C
C832	7	C
C834	8	B
C840	4	C
C841	4	C
C845	4	C
C853	8	C
C854	8	C
C861	5	D
C862	5	D
C863	6	F
C863E	7	F
C864	7	F
C864E	7	F
C865	6	G
C865E	6	G
C866	7	G
C866E	7	G
C867	7	G
C867E	7	G
C868	6	G
C868E	6	G
C869	5	G
C885	7	D
C896	7	C
C903	2	C
C904	1	C
C905	1	C
C906	1	C
C909	2	C

Symbol	X	Y
C925	6	F
C931	4	E
C932	5	E
C933	4	E
C934	5	E
C935	4	E
C936	5	E
C937	4	E
C938	5	E
C941	4	E
C942	5	E
C943	4	E
C944	5	E
C945	3	E
C946	3	E
C955	2	A
C956	2	A
C961	8	G
C962	8	G
C971	1	B
C972	1	B
C973	1	B
C974	1	B
C981	1	C
C982	1	B
C983	1	C
C984	1	B
C985	1	C
C986	1	C
C987	1	C
CC	1	F
CN711	6	C
CN713	4	C
CN801	7	E
CN831	8	C
CN851	8	B
CN955	1	D
CN965	2	A
D503	3	C
D511	3	C
D512	3	B
D531	3	B
D585	7	B
D586	7	B
D591	7	B
D781	6	B
D782	4	B
D783	6	B
D784	4	B
D801	1	D
D802	1	D
D803	1	D
D804	1	D
D805	2	D
D806	3	D
D807	2	D
D808	2	G
D811	6	F
D812	6	F
D815	8	C
D822	7	C
D831	8	B
D832	7	C
D840	3	D
D841	3	D
D851	8	C
D860	7	E
D861	7	F
D862	7	F
D863	7	F
D864	7	F
D865	7	G

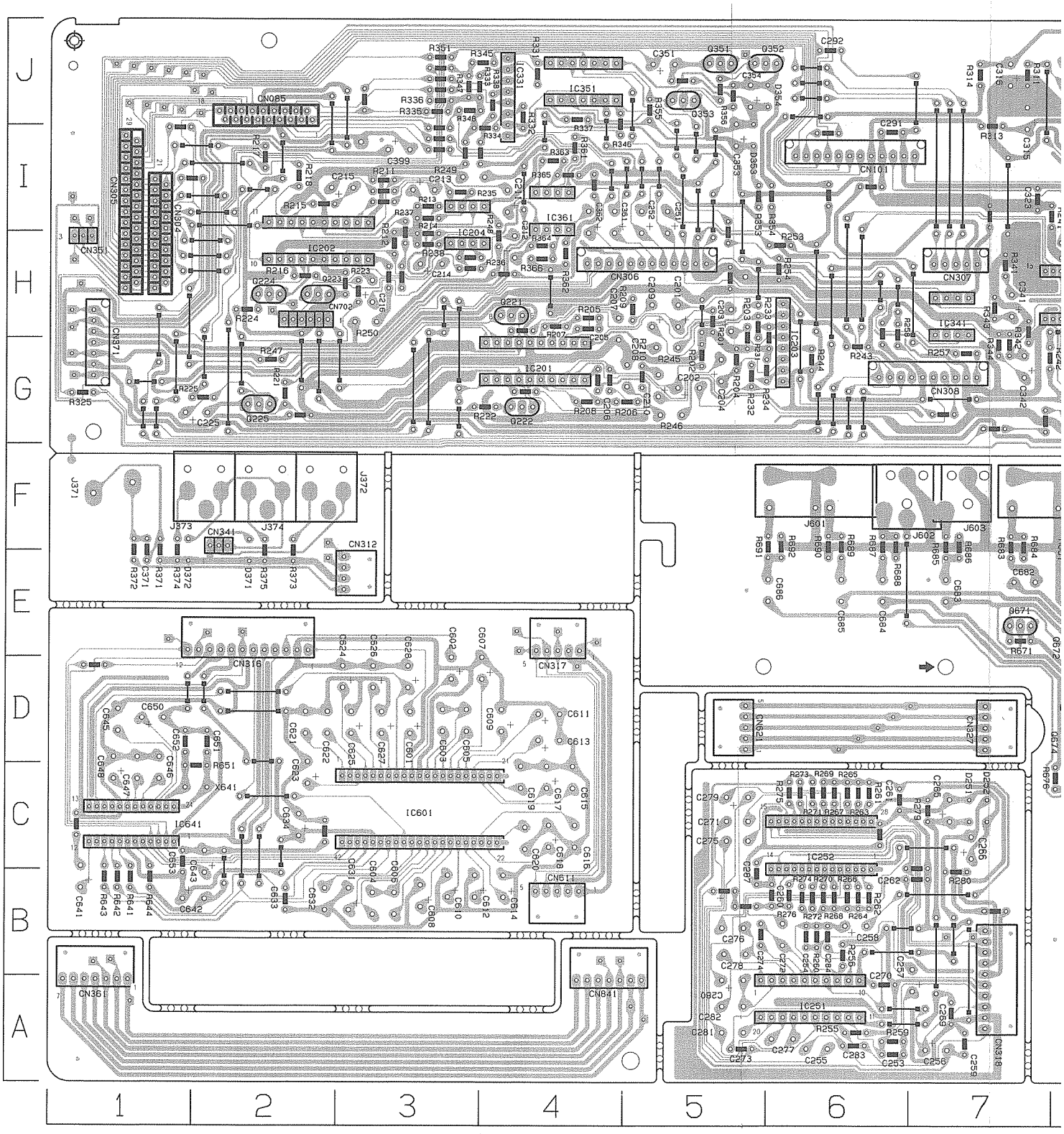
Symbol	X	Y
D866	7	G
D867	7	G
D868	7	G
D885	7	D
D891	7	C
D901	6	B
D902	4	B
D921	6	D
D925	6	F
D951	2	B
D952	1	C
F801	2	F
F802	2	F
F803	5	G
F811	5	F
F812	5	E
FW801	5	G
FW801B	6	G
FW831	8	F
FW901A	4	E
FW901B	8	E
FW902	6	D
FW902B	7	E
FW961	8	G
FW961A	8	E
IC831	8	B
IC901	2	C
IMO751	1	A
IMO751	8	A
IP853	8	D
J955	2	A
J961	7	G
K	3	F
KK	4	G
L	3	F
L501	2	B
L581	7	B
L771	5	B
L772	4	B
L931	4	E
L932	4	E
L971	2	B
L981	1	B
LL	4	G
P	3	G
P1	1	A
P1	2	F
P2	1	A
PP	4	F
Q501	3	C
Q502	3	C
Q503	3	C
Q507	3	A
Q508	2	A
Q509	3	C
Q511	3	B
Q512	3	B
Q540	2	A
Q568	8	A
Q575	7	A
Q576	7	A
Q585	7	B
Q586	8	B
Q591	7	B
Q741	6	A
Q742	3	A
Q761	5	A
Q762	4	A
Q763	6	A
Q764	4	A
Q781	6	B
Q782	4	B

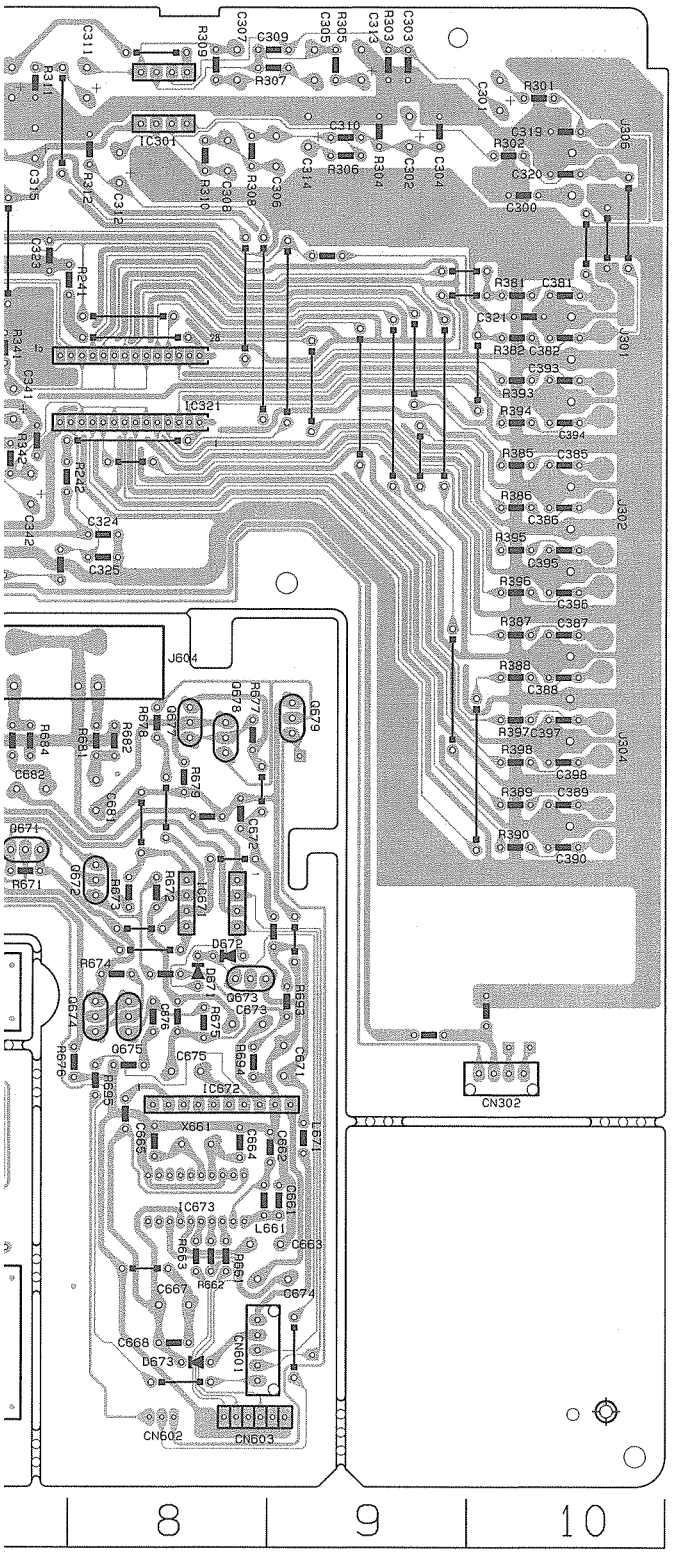
Symbol	X	Y
Q783	6	B
Q784	4	B
Q802	3	D
Q803	3	D
Q805	2	D
Q811	8	C
Q821	7	C
Q831	8	F
Q841	4	D
Q851	8	D
Q860	7	E
Q861	7	E
Q885	7	D
Q891	7	C
Q901	6	B
Q902	4	B
Q903	2	C
Q951	2	C
R001	4	G
R002	4	G
R003	4	F
R501	3	C
R502	3	C
R503	3	C
R504	3	C
R505	3	C
R507	3	C
R508	3	C
R511	3	C
R512	3	C
R513	3	C
R514	2	C
R515	3	C
R517	3	C
R518	3	C
R523	3	B
R524	2	B
R527	3	B
R528	2	B
R531	2	B
R532	2	B
R533	2	C
R541	2	A
R542	2	B
R543	3	B
R544	3	B
R545	3	B
R546	3	B
R547	2	C
R548	2	C
R549	2	B
R562	7	A
R567	7	B
R571	8	B
R572	8	B
R576	7	A
R577	7	B
R581	7	B
R582	7	B
R585	7	B
R586	8	B
R587	7	B
R588	8	B
R591	7	B
R592	7	B
R593	7	C
R594	7	B
R743	6	B
R744	4	A
R745	6	A
R746	3	A
R747	6	A

Symbol	X	Y
R748	3	A
R751	6	B
R752	3	B
R753	6	B
R754	3	B
R934	5	E
R771	6	B
R772	4	B
R773	5	B
R774	4	B
R775	5	B
R776	4	B
R781	6	B
R782	4	B
R783	6	B
R784	4	B
R785	6	B
R786	4	B
R787	6	B
R788	3	B
R800	1	E
R801	2	D
R803	3	D
R805	3	D
R806	1	D
R807	1	D
R808	5	G
R811	8	C
R812	8	C
R821	7	C
R822	7	C
R830	7	F
R831	7	G
R831A	7	F
R832	8	G
R840	7	D
R841	4	C
R841E	4	D
R842	4	D
R845	4	C
R852	8	D
R853	8	D
R853A	8	D
R854	8	D
R859	7	E
R860	7	E
R861	6	D
R862	6	D
R885	7	D
R891	7	D
R892	7	D
R901	6	B
R902	4	B
R903	6	B
R904	4	B
R905	6	B
R906	4	B
R909	5	B
R910	5	B
R911	2	C
R912	1	C
R913	1	C
R915	2	C
R916	2	C
R917	2	C
R918	1	C
R919	1	C
R920	1	C
R921	7	D
R925	6	F
R926	6	F
R927	6	F
R929	6	D

Symbol	X	Y
R930	6	D
R931	4	E
R932	5	E
R933	4	E
R934	5	E
R951	2	C
R955	1	C
R956	1	C
R961	8	E
R962	8	E
R971	1	B
R981	1	C
R982	1	C
RY801	2	G
RY860	6	E
RY901	6	D
RY951	2	B
S901A	8	F
S901B	8	F
ST901	4	F
ST951	1	C
SW001	1	B
T801	2	E
TA801	1	F
TA802	1	E
TH540	2	A
TH568	8	A
TH749	6	A
TH750	3	A
TP001	5	B

INPUT P.C. BOARD (ENC-135)

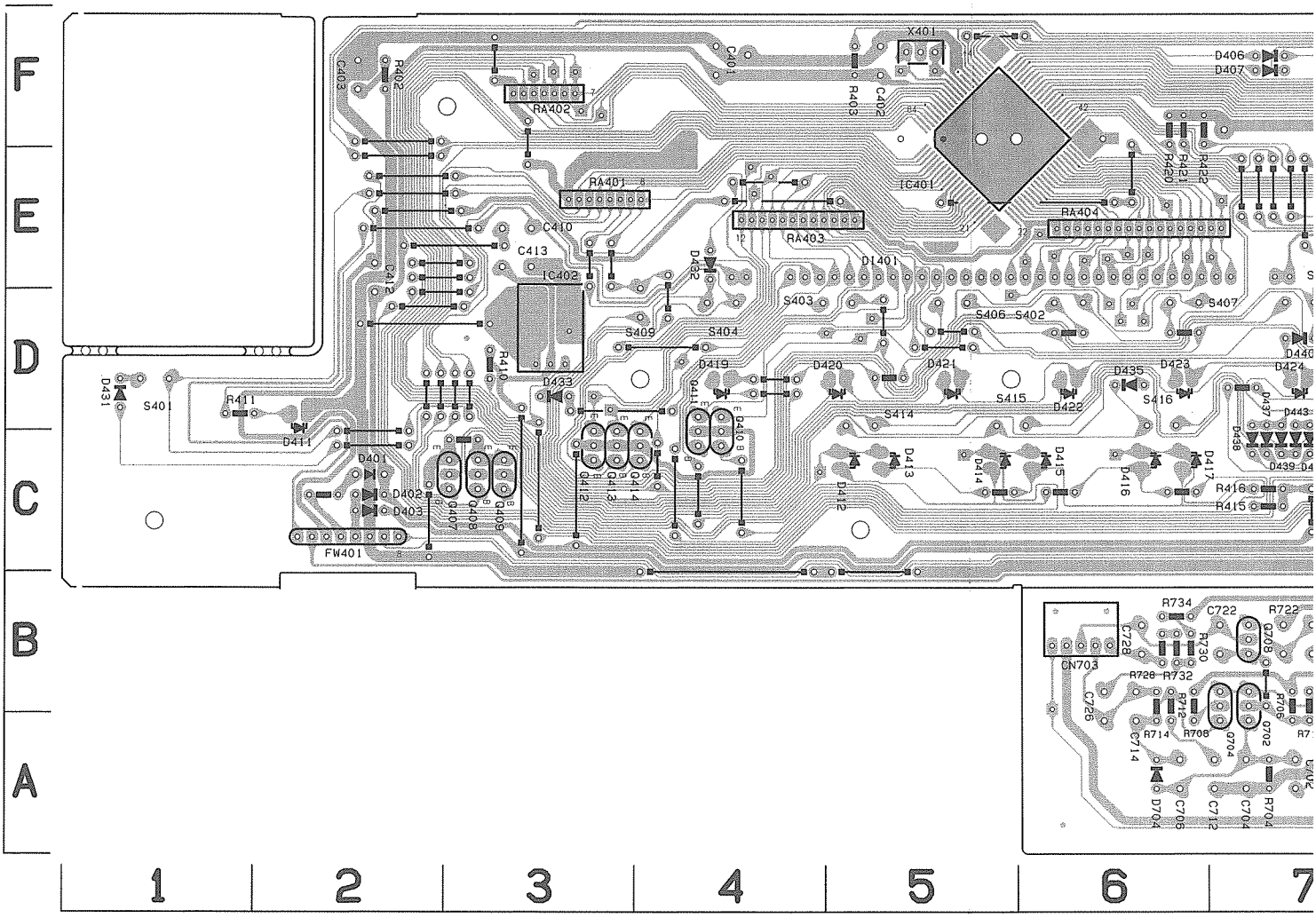


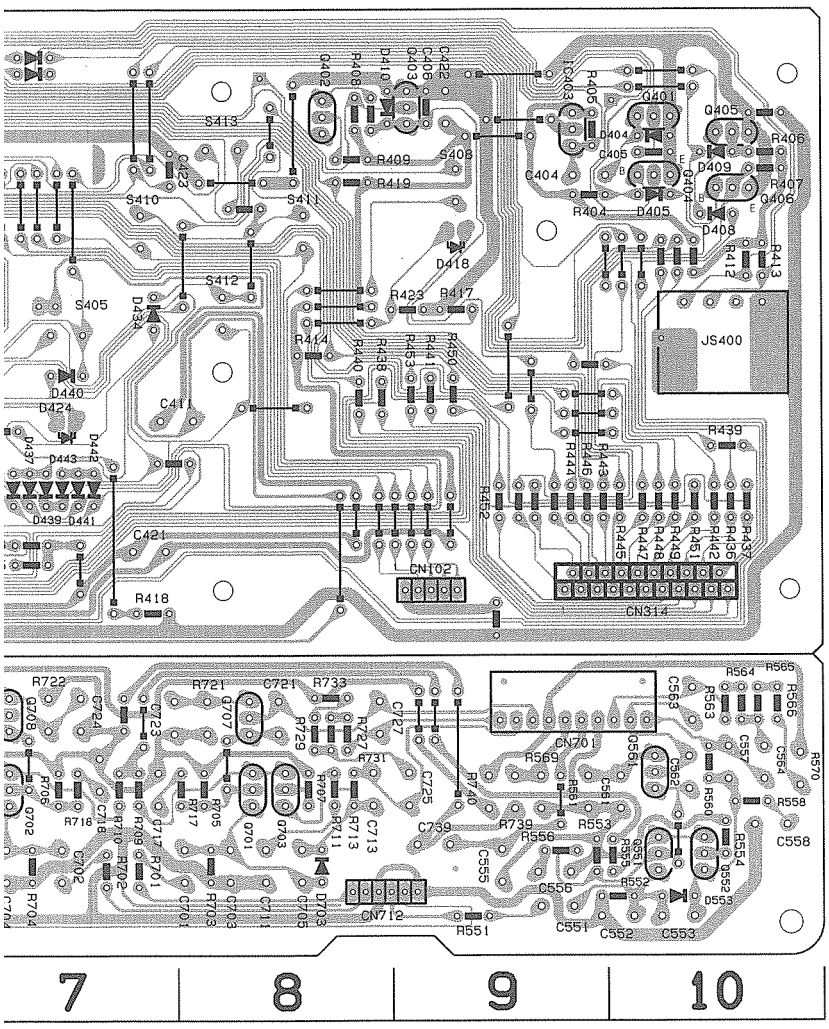


Location List(ENC135)

Symbol	X	Y
C201	4	F
C202	4	E
C203	4	E
C204	4	E
C205	3	F
C206	3	E
C207	4	E
C208	4	E
C209	4	F
C210	4	E
C211	3	F
C212	3	F
C213	2	F
C214	2	F
C215	2	F
C216	2	F
C225	1	E
C251	4	F
C252	4	F
C253	5	A
C254	5	B
C255	5	A
C256	5	A
C257	5	A
C258	5	B
C259	5	A
C260	4	B
C261	5	B
C262	5	B
C265	5	B
C266	5	B
C269	5	A
C270	5	A
C271	4	B
C272	4	A
C273	4	A
C274	4	A
C275	4	B
C276	4	B
C277	4	A
C278	4	A
C279	4	B
C280	4	A
C281	4	A
C282	4	A
C283	5	A
C284	5	A
C287	4	B
C291	5	G
C292	5	G
C300	8	G
C301	8	G
C302	7	G
C303	7	G
C304	7	G
C305	7	G
C306	7	G
C307	7	G
C308	6	G
C309	7	G
C310	7	G
C311	6	G
C312	6	G
C313	7	G
C314	7	G
C315	6	G
C316	6	G
C319	8	G
C320	8	G
C321	8	F
C323	6	F
C324	6	E
C325	6	E
C341	6	F
C342	6	E
C351	4	G
C353	4	G
C354	4	G
C361	4	F
C362	3	F
C371	1	D
C381	8	F
C382	8	F
C385	8	E
C386	8	E
C387	8	E
C388	8	D
C389	8	D
C390	8	D
C393	8	F
C394	8	F
C395	8	E
C396	8	E
C397	8	D
C398	8	D
C399	2	G
C601	2	C
C602	3	C
C603	3	C
C604	2	B
C605	3	C
C606	2	B
C607	3	C
C608	2	B
C609	3	C
C610	3	B
C611	3	C
C612	3	B
C613	3	C
C614	3	B
C615	3	B
C616	3	B
C617	3	B
C618	3	B
C619	3	B
C620	3	B
C621	2	C
C622	2	C
C623	2	B
C624	2	C
C625	2	C
C626	2	C
C627	2	C
C628	2	C
C631	2	B
C632	2	B
C633	2	B
C634	2	B
C641	1	B
C642	1	B
C643	1	B
C645	1	C
C646	1	C
C647	1	C
C648	1	C
C650	1	C
C651	1	C
C652	1	C
C653	1	B
C661	7	B
C662	7	B
C663	7	B
C664	7	B
C665	6	B
C667	6	A
C668	6	A
C671	7	B
C672	7	D
C673	7	C
C674	7	A
C675	6	B
C676	6	C
C681	6	D
C682	6	D
C683	5	D
C684	5	D
C685	5	D
C686	4	D
CN085	2	G
CN101	5	G
CN302	7	B
CN304	1	F
CN305	1	F
CN306	4	F
CN307	5	F
CN308	5	E
CN312	2	D
CN316	2	C
CN317	3	C
CN318	6	A
CN327	6	C
CN341	1	D
CN351	1	F
CN361	1	A
CN371	1	E
CN601	7	A
CN602	6	A
CN603	7	A
CN611	3	B
CN621	4	C
CN702	2	F
CN841	4	A
D251	5	B
D252	6	B
D353	4	G
D354	4	G
D371	2	D
D372	1	D
D671	6	C
D672	7	C
D673	6	A
IC201	3	E
IC202	2	F
IC203	4	E
IC204	3	F
IC251	4	A
IC252	5	B
IC301	6	G
IC321	6	F
IC331	3	G
IC341	5	E
IC351	3	G
IC361	3	F
IC601	2	C
IC641	1	B
IC671	7	C
IC672	6	B
IC673	7	B
J301	8	F
J302	8	E
J304	8	D
J306	8	G
J371	1	D
J372	2	D
J373	1	D
J374	2	D
J601	5	E
J602	5	E
J603	5	E
J604	6	E
L661	7	B
L671	7	B
Q221	3	F
Q222	3	E
Q223	2	F
Q224	2	F
Q225	2	E
Q351	4	G
Q352	4	G
Q353	4	G
Q671	6	D
Q672	6	C
Q673	7	C
Q674	6	C
Q675	6	C
Q677	6	D
Q678	6	D
Q679	7	D
R201	4	E
R202	4	E
R203	4	E
R204	4	E
R205	3	F
R206	4	E
R207	3	F
R208	3	E
R209	4	F
R210	4	E
R211	2	F
R212	2	F
R213	2	F
R214	3	F
R215	2	F
R216	2	F
R217	2	G
R218	2	F
R221	2	E
R222	3	E
R223	2	F
R224	2	F
R225	1	E
R231	4	E
R232	4	E
R233	4	E
R234	4	E
R235	3	F
R236	3	F
R237	2	F
R238	2	F
R241	6	F
R242	6	E
R243	5	E
R244	5	E
R245	4	E
R246	4	E
R247	2	E
R248	3	F
R249	3	G
R250	2	F
R253	4	F
R254	4	F
R255	5	A
R256	5	A
R257	5	E
R258	5	F
R259	5	A
R260	5	B
R261	5	B
R262	5	B
R263	5	B
R264	5	B
R265	5	B
R266	5	B
R267	5	B
R268	5	B
R269	5	B
R270	5	B
R271	5	B
R272	5	B
R273	5	B
R274	5	B
R275	4	B
R276	4	B
R279	5	B
R280	5	B
R301	8	G
R302	8	G
R303	7	G
R304	7	G
R305	7	G
R306	7	G
R307	7	G
R308	7	G
R309	6	G
R310	6	G
R311	6	G
R312	6	G
R313	5	G
R314	5	G
R325	1	E
R331	3	G
R332	3	G
R333	3	G
R334	3	G
R335	3	G
R336	3	G
R337	3	G
R338	3	G
R341	6	F
R342	6	E
R343	6	F
R344	6	E
R345	3	G
R346	4	G
R347	3	G
R348	3	G
R351	3	G
R353	4	F
R354	4	F
R355	4	G
R356	4	G
R361	3	G
R362	3	F
R363	3	G
R364	3	F
R365	3	G
R366	3	F
R371	1	D
R372	1	D
R373	2	D
R374	1	D
R375	2	D
R381	8	F
R382	8	F
R385	8	E
R386	8	E
R387	8	E
R388	8	D
R389	8	D
R390	8	D
R393	8	F
R394	8	F
R395	8	E
R396	8	E
R397	8	D
R398	8	D
R641	1	B
R642	1	B
R643	1	B
R644	1	B
R651	1	C
R661	6	B
R662	6	B
R663	6	B
R671	6	C
R672	6	C
R673	6	C
R674	6	C
R675	6	C
R676	6	B
R677	7	D
R678	6	D
R679	6	D
R681	6	D
R682	6	D
R683	6	D
R684	6	D
R685	5	D
R686	5	D
R687	5	D
R688	5	D
R689	5	D
R690	5	D
R691	4	D
R692	4	D
R693	7	C
R694	7	B
R695	6	B
X641	1	B
X661	6	B

FRONT P.C.BOARD (ENB-244)





Location List(ENB-244)

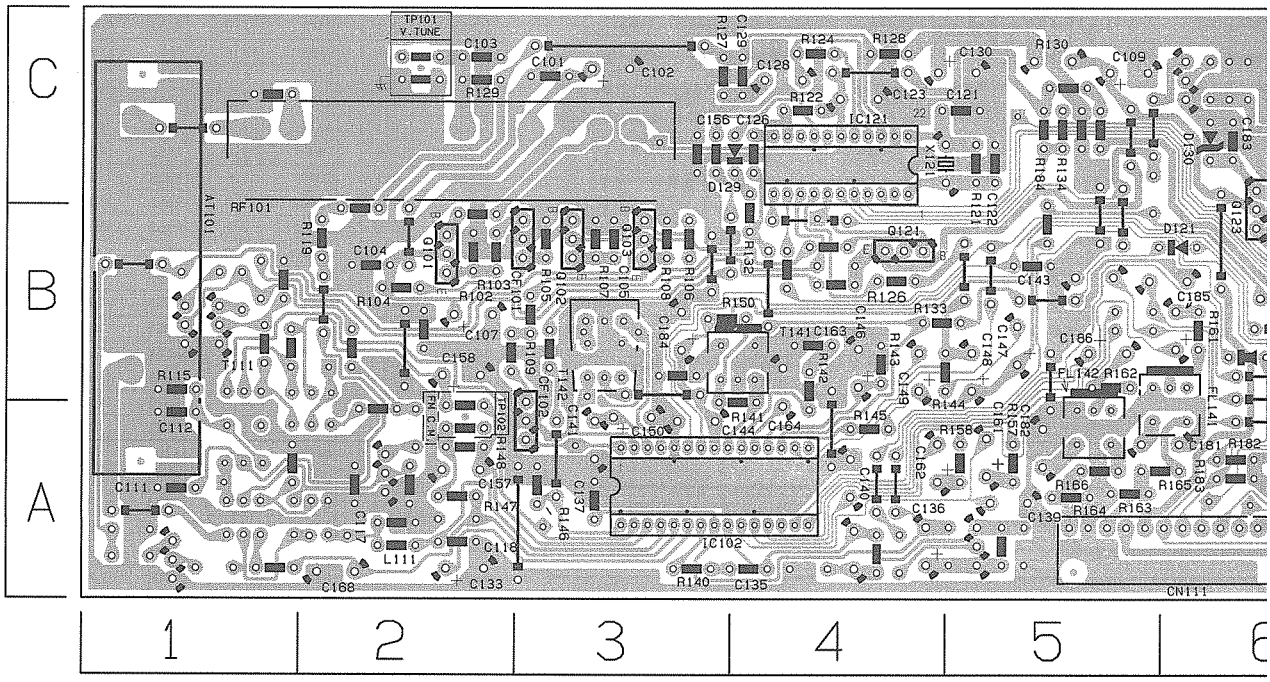
Symbol	X	Y
C401	4	F
C402	5	F
C403	2	F
C404	9	E
C405	10	F
C406	9	F
C410	3	E
C411	7	D
C412	2	D
C413	3	E
C421	7	C
C422	9	F
C423	7	E
C551	9	A
C552	10	A
C553	10	A
C555	9	A
C556	9	A
C557	10	B
C558	10	A
C561	10	A
C562	10	B
C563	10	B
C564	10	B
C701	8	A
C702	7	A
C703	8	A
C704	7	A
C705	8	A
C706	6	A
C711	8	A
C712	7	A
C713	8	A
C714	6	A
C717	7	B
C718	7	B
C721	8	B
C722	7	B
C723	7	B
C724	7	B
C725	9	A
C726	6	A
C727	8	B
C728	6	B
C739	9	A
CN102	9	C
CN314	10	C
CN701	10	B
CN703	6	B
CN712	9	A
D401	2	C
D402	2	C
D403	2	C
D404	10	F
D405	10	E
D406	7	F
D407	7	F
D408	10	E
D409	10	F
D410	8	F
D411	2	D
D412	5	C
D413	5	C
D414	5	C
D415	6	C
D416	6	C
D417	6	C
D418	9	E
D419	4	D
D420	5	D
D421	5	D
D422	6	D

Symbol	X	Y
D423	6	D
D424	7	D
D431	1	D
D432	4	E
D433	3	D
D434	7	D
D435	6	D
D437	7	D
D438	7	D
D439	7	D
D440	7	D
D441	7	D
D442	7	D
D443	7	D
D553	10	A
D703	8	A
D704	6	A
DI401	7	E
FW401	2	C
IC401	5	F
IC402	3	D
IC403	9	F
JS400	10	D
Q401	10	F
Q402	8	F
Q403	9	F
Q404	10	E
Q405	10	F
Q406	10	E
Q407	3	C
Q408	3	C
Q409	3	C
Q410	4	C
Q411	4	C
Q412	3	C
Q413	3	C
Q414	4	C
Q551	10	A
Q552	10	A
Q561	10	B
Q701	8	A
Q702	7	A
Q703	8	A
Q704	7	A
Q707	8	B
Q708	7	B
R402	2	F
R403	5	F
R404	9	E
R405	9	F
R406	10	F
R407	10	E
R408	8	F
R409	8	E
R410	3	D
R411	1	D
R412	10	E
R413	10	E
R414	8	D
R415	7	C
R416	7	C
R417	9	E
R418	7	C
R419	8	E
R420	6	F
R421	6	F
R422	6	F
R423	8	E
R436	10	C
R437	10	C
R438	8	D
R439	10	D

Symbol	X	Y
R440	8	D
R441	9	D
R442	10	C
R443	9	C
R444	9	C
R445	10	C
R446	9	C
R447	10	C
R448	10	C
R449	10	C
R450	9	D
R451	10	C
R452	9	C
R453	9	D
R551	9	A
R552	9	A
R553	9	A
R554	10	A
R555	10	A
R556	9	A
R558	10	A
R560	10	B
R561	9	B
R563	10	B
R564	10	B
R565	10	B
R566	10	B
R569	9	B
R570	10	B
R701	7	A
R702	7	A
R703	8	A
R704	7	A
R705	8	A
R706	7	A
R707	8	A
R708	6	A
R709	7	B
R710	7	B
R711	8	A
R712	6	A
R713	8	A
R714	6	A
R717	8	A
R718	7	A
R721	8	B
R722	7	B
R727	8	B
R728	6	B
R729	8	B
R730	6	B
R731	8	B
R732	6	B
R733	8	B
R734	6	B
R739	9	A
R740	9	A
RA401	3	E
RA402	3	F
RA403	5	E
RA404	6	E
S401	1	D
S402	6	D
S403	5	D
S404	4	D
S405	7	D
S406	5	D
S407	6	D
S408	9	E
S409	4	D
S410	7	E
S411	8	E

Symbol	X	Y
S412	8	E
S413	8	F
S414	5	D
S415	5	D
S416	6	D
X401	5	F

TUNER P.C.BOARD (ENA-178)



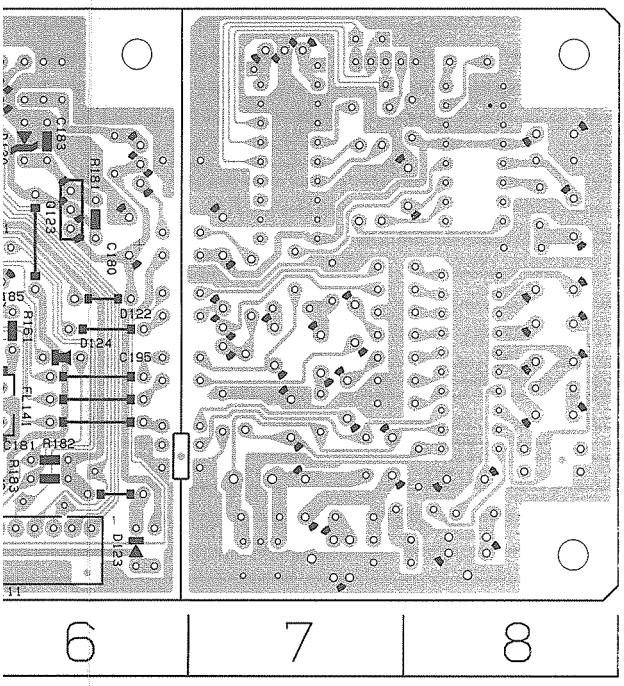
Location List(ENA-178)

Symbol	X	Y
C101	3	C
C102	3	C
C103	2	C
C104	2	B
C105	3	B
C107	2	B
C109	5	C
C111	1	A
C112	1	B
C113	1	A
C117	2	A
C118	2	A
C121	4	C
C122	4	C
C123	4	C
C126	3	C
C128	3	C
C129	3	C
C130	4	C
C131	6	B
C132	6	B
C133	2	A
C135	3	A
C136	4	A
C137	3	A
C138	3	A
C139	4	A
C140	4	A
C141	3	B
C143	4	B
C144	3	B
C146	4	B
C147	4	B
C148	4	B
C149	4	B
C150	3	B
C153	4	A
C154	6	B
C155	4	A
C156	3	C
C157	2	A
C158	2	B
C159	5	B
C160	5	B
C161	4	A
C162	4	A
C163	4	B
C164	3	B
C165	5	C
C166	6	B
C167	7	A
C168	2	A
C170	6	B
C171	6	A
C172	6	A
C173	7	B
C174	7	B
C177	7	B
C178	7	B
C179	7	B
C180	5	C
C181	5	B
C182	4	A
C183	5	C
C184	3	B
C185	5	B
C186	5	B
C187	6	A
C188	7	B
C189	7	B
C190	7	A
C191	7	C

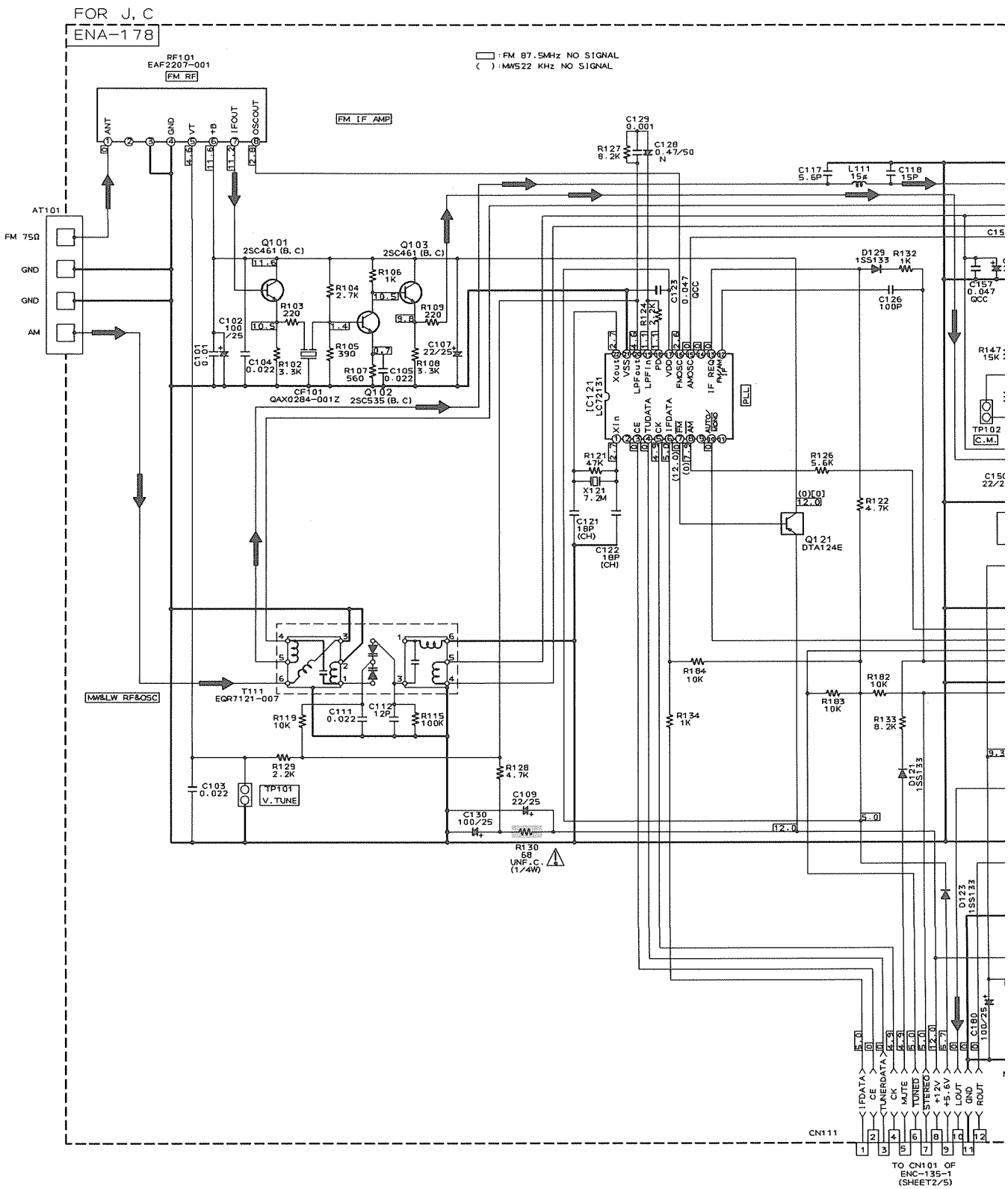
Symbol	X	Y
C192	7	C
C193	7	C
C194	7	C
C195	6	B
C196	6	C
C197	6	C
C199	7	C
CF101	2	C
CF102	2	B
CN111	4	A
CN112	7	C
D121	5	C
D122	6	B
D123	5	A
D124	5	B
D129	3	C
D130	5	C
D131	6	A
D132	6	B
D133	5	C
FL141	5	B
FL142	5	B
IC102	3	B
IC104	7	B
IC121	4	C
IC191	6	C
IC192	7	C
L111	2	A
Q101	2	C
Q102	3	C
Q103	3	C
Q111	2	B
Q112	1	B
Q113	1	B
Q114	1	A
Q121	4	C
Q123	5	C
Q131	6	B
Q132	4	A
Q133	5	C
Q134	5	C
R102	2	B
R103	2	B
R104	2	B
R105	2	B
R106	3	B
R107	3	B
R108	3	B
R109	2	B
R110	1	A
R111	2	B
R112	1	B
R113	1	B
R114	1	B
R115	1	B
R116	1	A
R119	2	C
R121	4	C
R122	4	C
R124	4	C
R126	4	B
R127	3	C
R128	4	C
R129	2	C
R130	4	C
R131	4	B
R132	3	C
R133	4	B
R134	4	C
R137	5	C
R138	4	A
R139	4	A

Symbol	X	Y
R140	3	A
R141	3	B
R142	3	B
R143	4	B
R144	4	B
R145	4	B
R146	2	A
R147	2	A
R148	2	B
R149	2	A
R150	3	B
R151	6	B
R152	6	B
R153	6	B
R155	6	B
R156	6	B
R157	4	A
R158	4	A
R159	5	B
R160	5	B
R161	5	B
R162	5	B
R163	5	A
R164	5	A
R165	5	A
R166	5	A
R167	5	C
R168	5	C
R170	6	A
R171	6	A
R172	6	A
R173	6	A
R176	6	B
R177	7	B
R178	7	A
R179	7	A
R181	5	C
R182	5	B
R183	5	A
R184	4	C
R191	7	C
RF101	1	C
T111	2	B
T141	3	B
T142	3	B
T151	6	A
TC101	6	A
TX0001	4	A
TX0001	7	B
TX0001	6	B
TX0001	0	A
TX0001	7	A
TX0001	2	B
TX0001	1	C
TX0001	3	C
TX0001	3	B
TX0001	2	B
TX0001	2	B
TX0001	2	C
TX0001	2	A
TX0001	5	C
TX0001	4	C
TX0001	4	C
TX0001	3	B
TX0001	5	C
TX0001	2	A
TX0001	1	B
TX0001	5	A
TX0001	4	A
TX0001	4	C
TX0001	3	B
TX0001	3	C

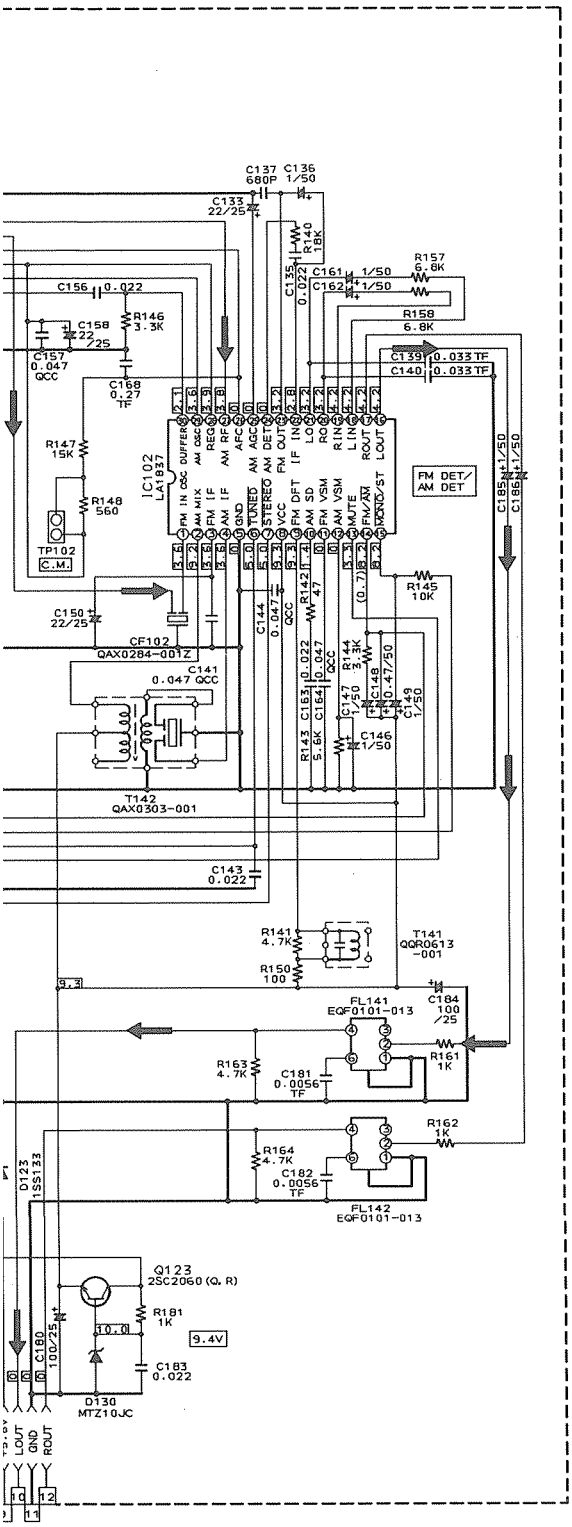
Symbol	X	Y
TX0001	3	C
TX0001	3	B
TX0001	3	A
TX0001	4	C
TX0001	3	A
X121	4	C
X191	7	C
X192	6	C



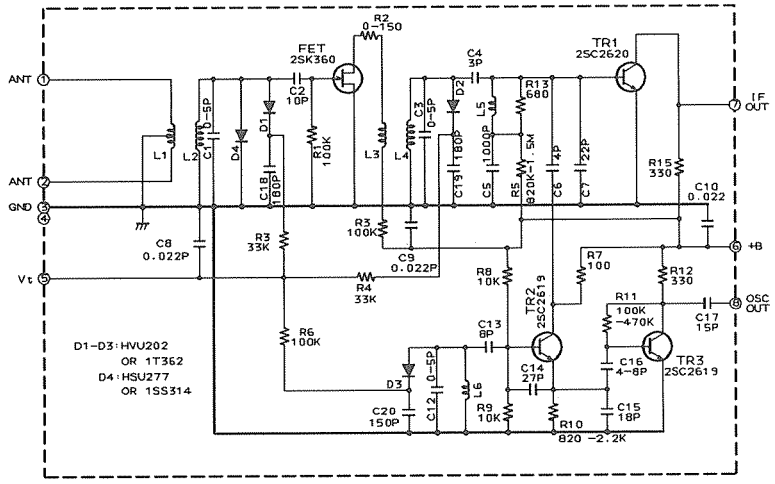
TUNER SECTION :USED J,C VERSION



9	10	11	12	13	14	15	16



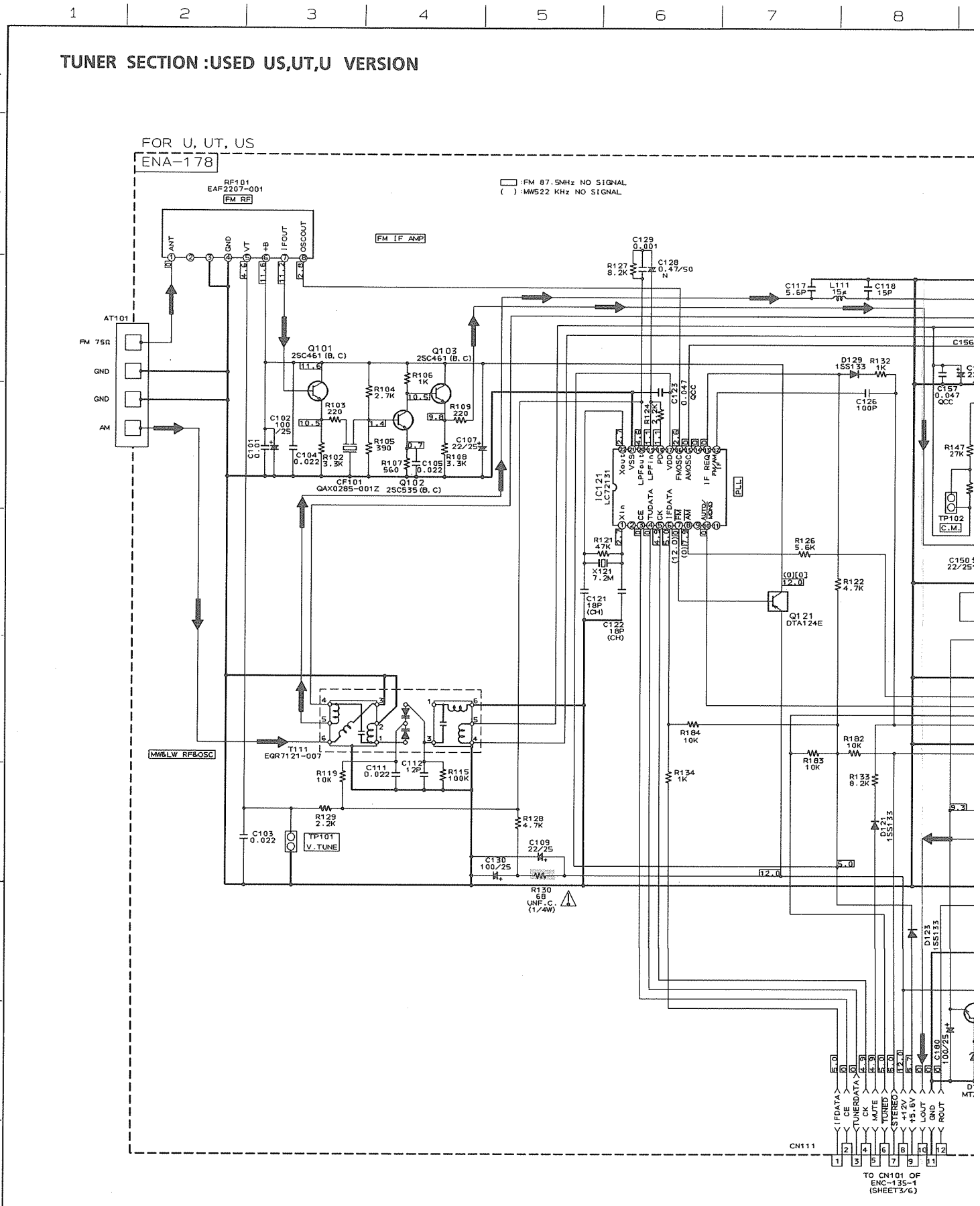
RF101
EAF2207-001

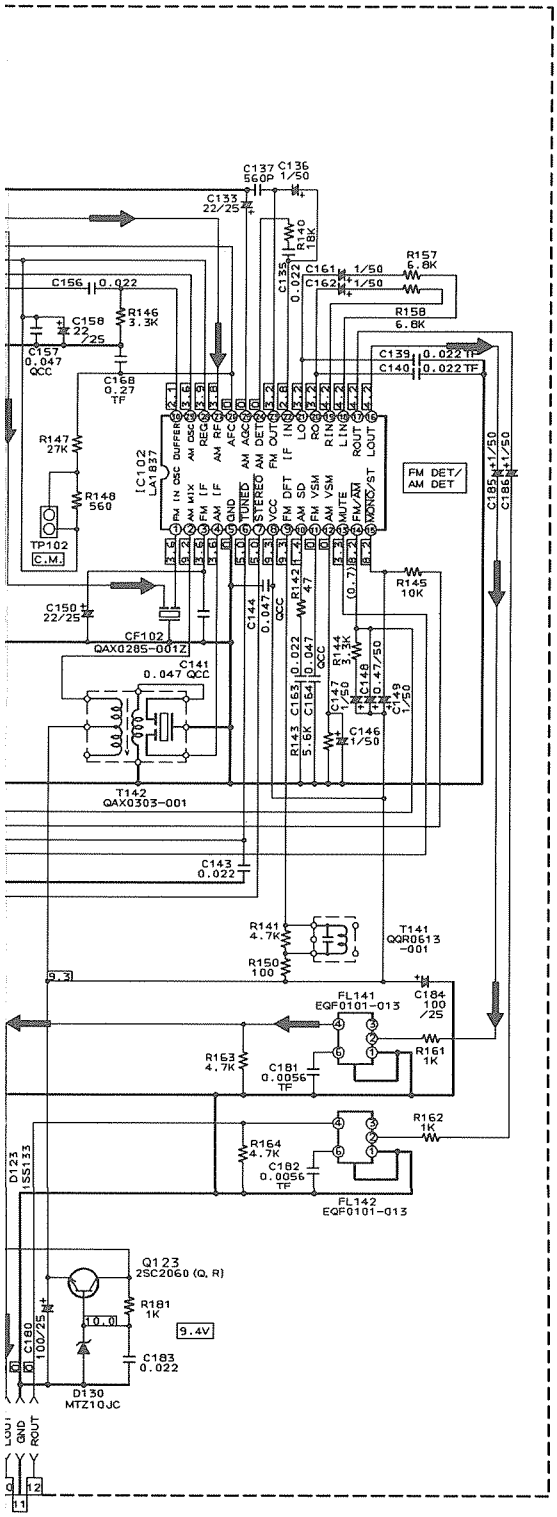


Notes:

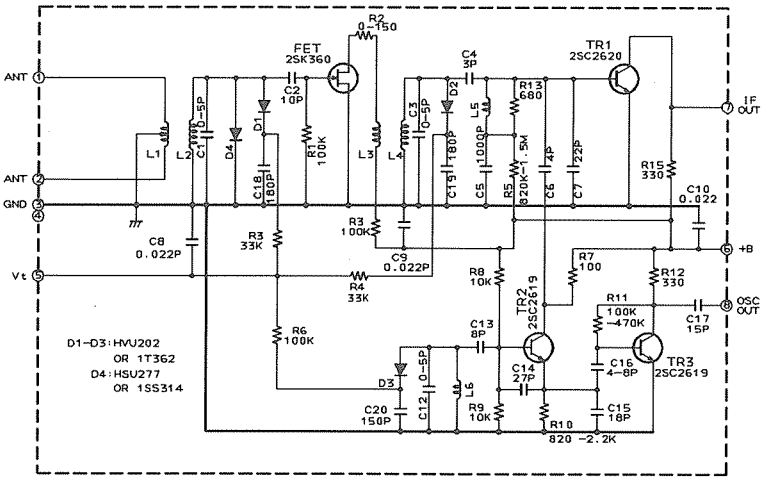
1. ⇐ indicates Main signal path.
2. ⇚ indicates CENTER signal path.
3. ⇦ indicates REAR signal path.
4. When replacing the parts in the darkened are (▩) and those marked with ⚠ ,be sure to use the designated parts to ensure safety.
5. This is the standard circuit diagram. The design and contents are subject to change withoutnotice.

TUNER SECTION :USED US,UT,U VERSION

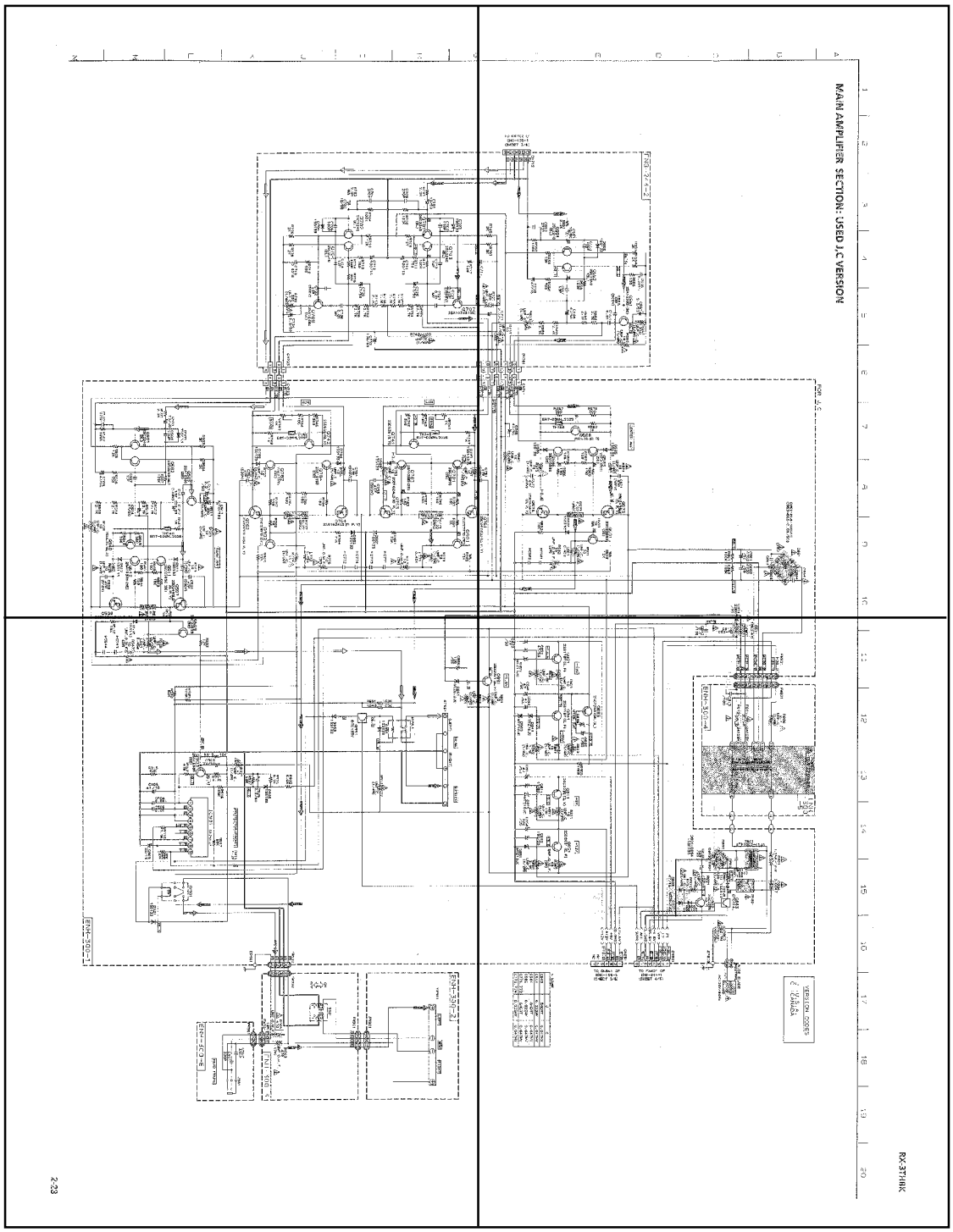




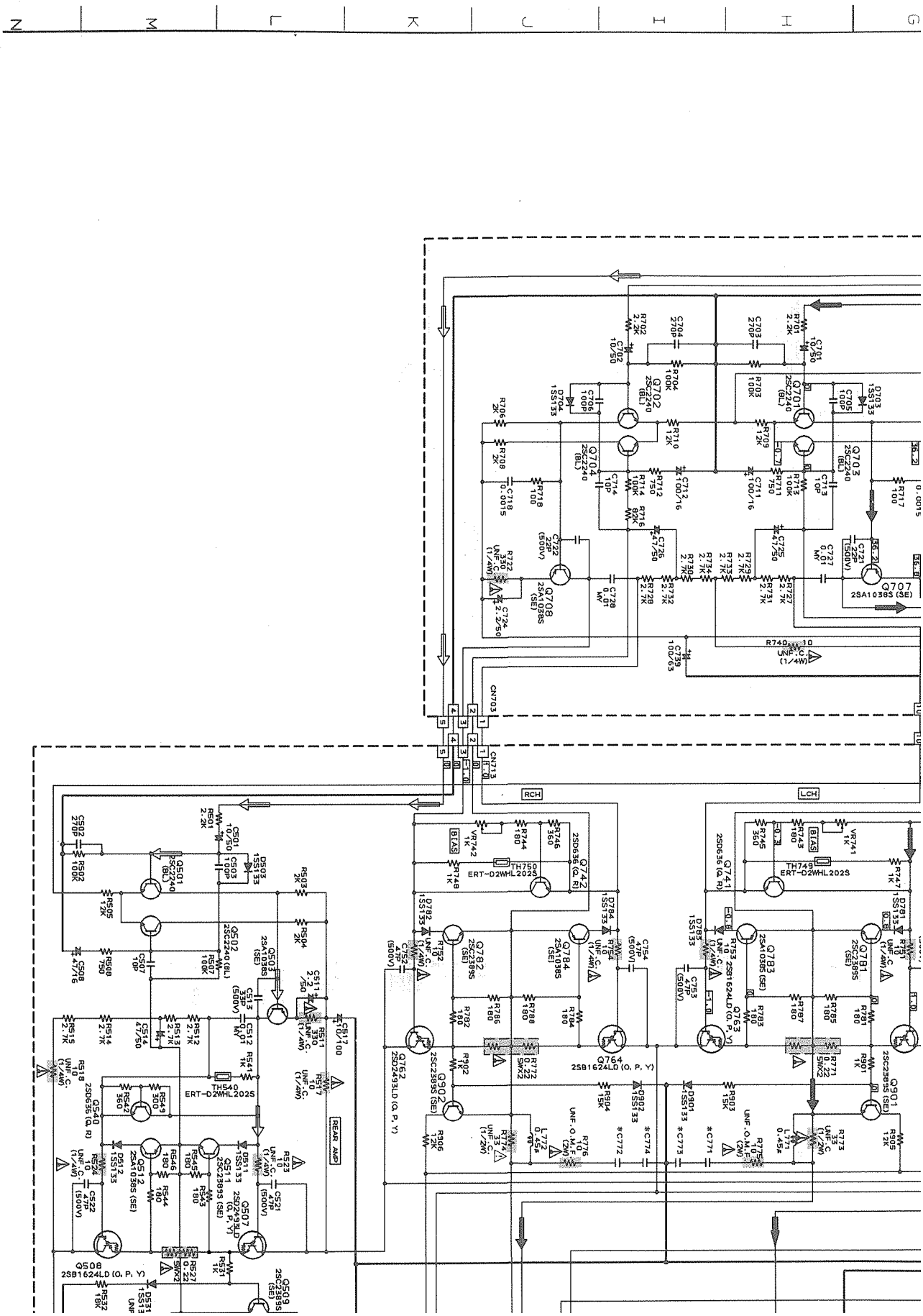
RF101
EAF2207-001



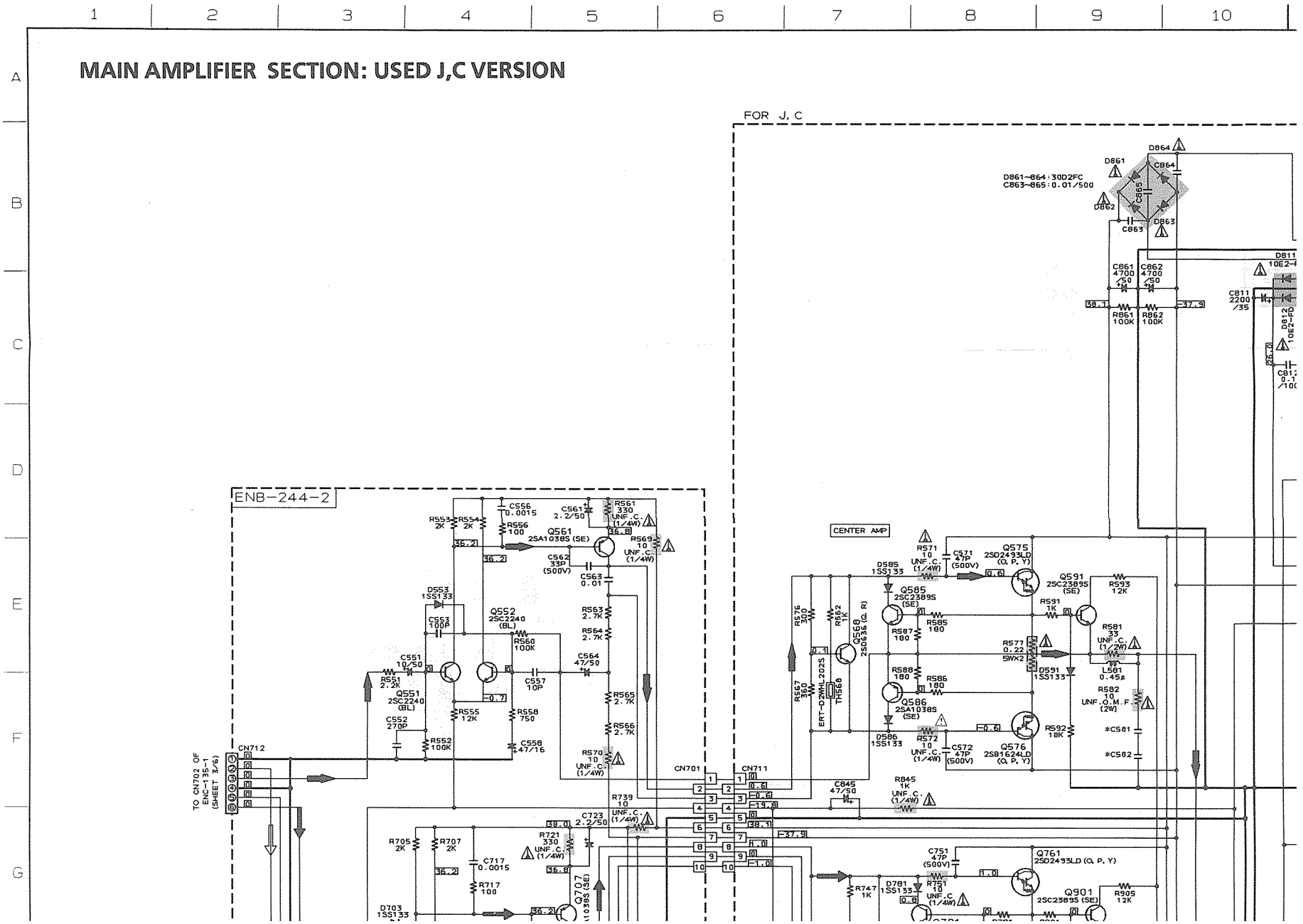
P2-23-a P2-23-b

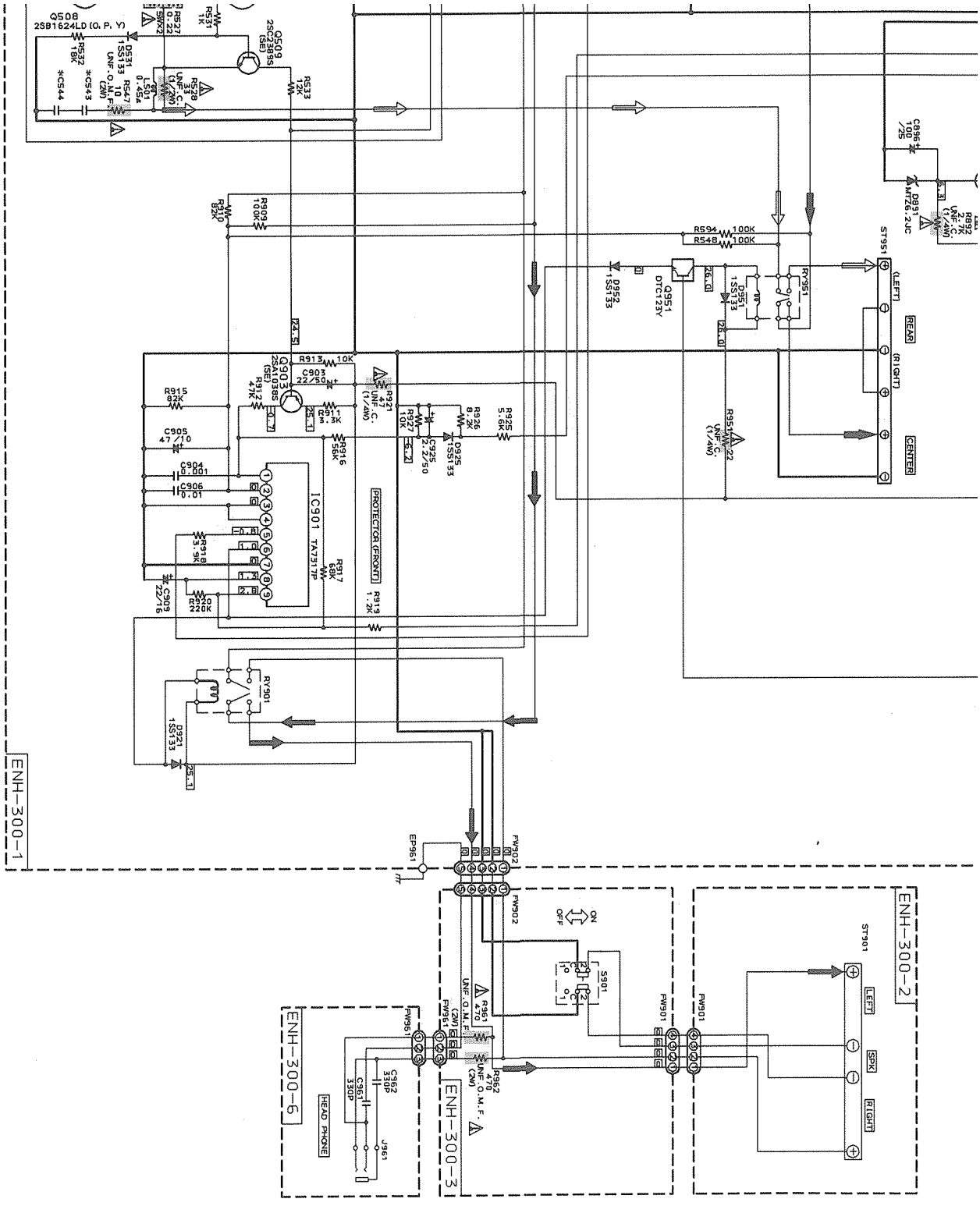


P2-23-c P2-23-d

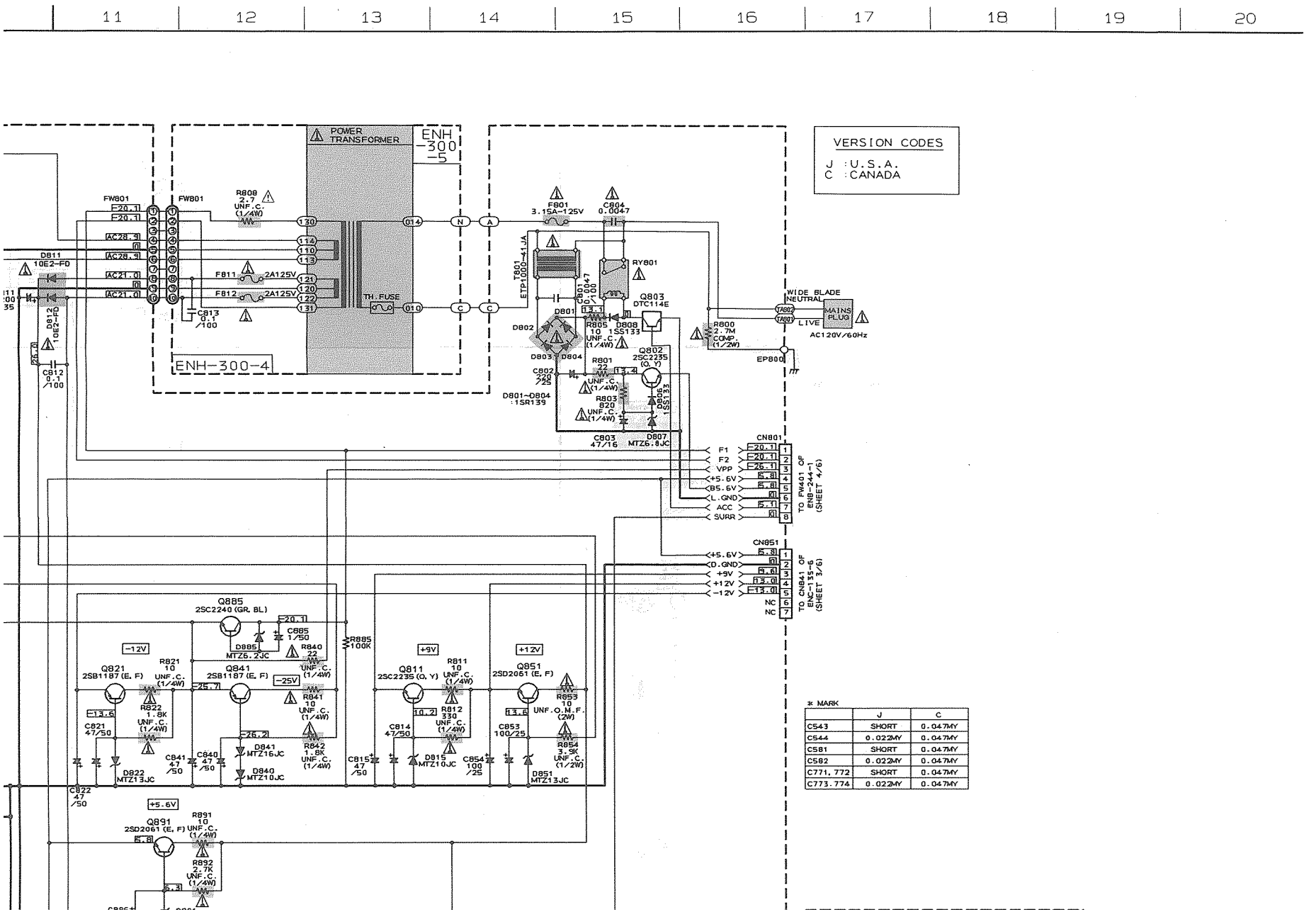


MAIN AMPLIFIER SECTION: USED J,C VERSION




ENH-300-1
ENH-300-2
ENH-300-3
ENH-300-6
IC901 TA7317P
PROTECTOR (FRONT)
ST901
ST951
RY901
RY951
FW901
FW902
FW961
EP961
S901
J961
HEAD PHONE
LEFT
RIGHT
SPK
REAR
CENTER
ON
OFF

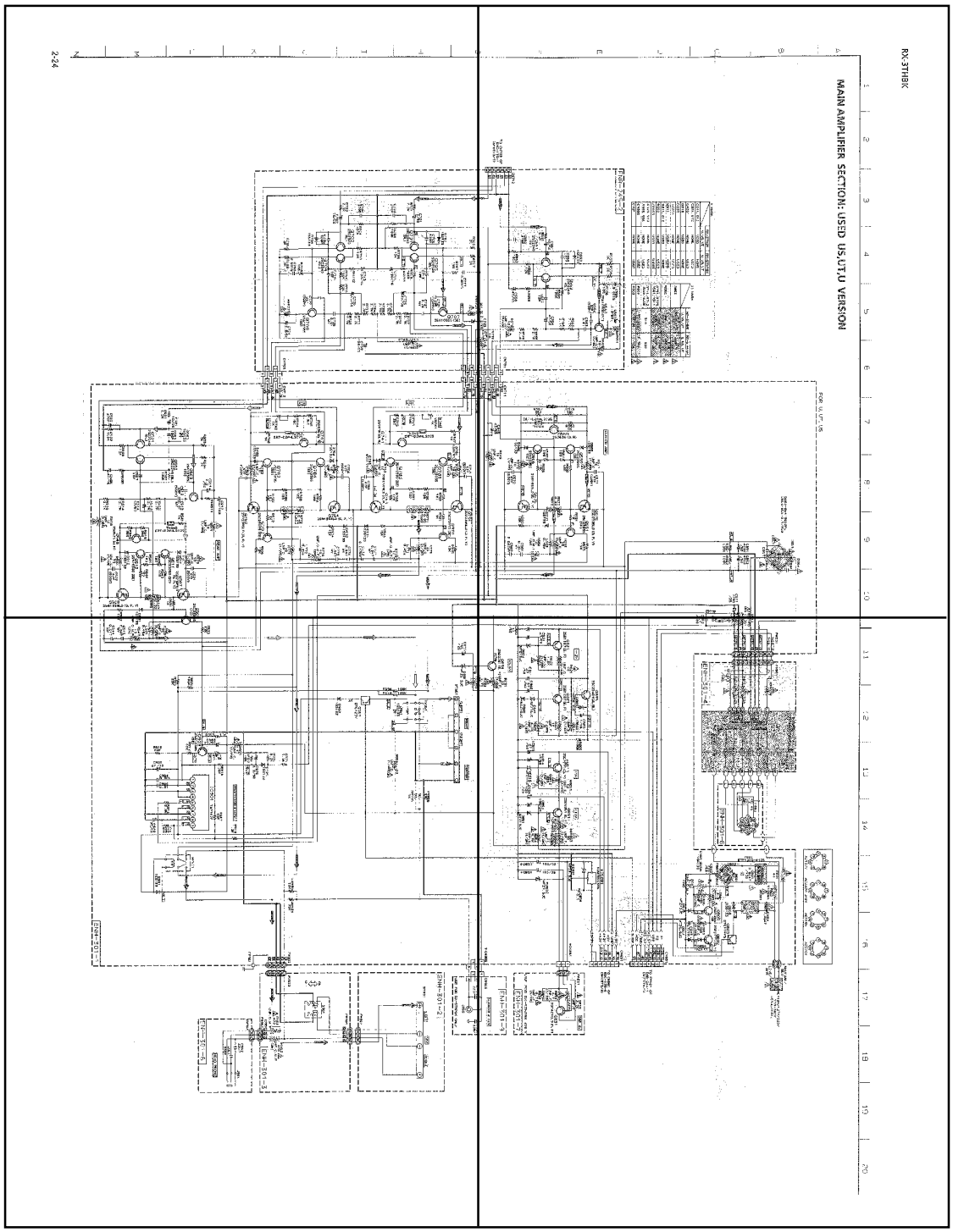
P2-23-c



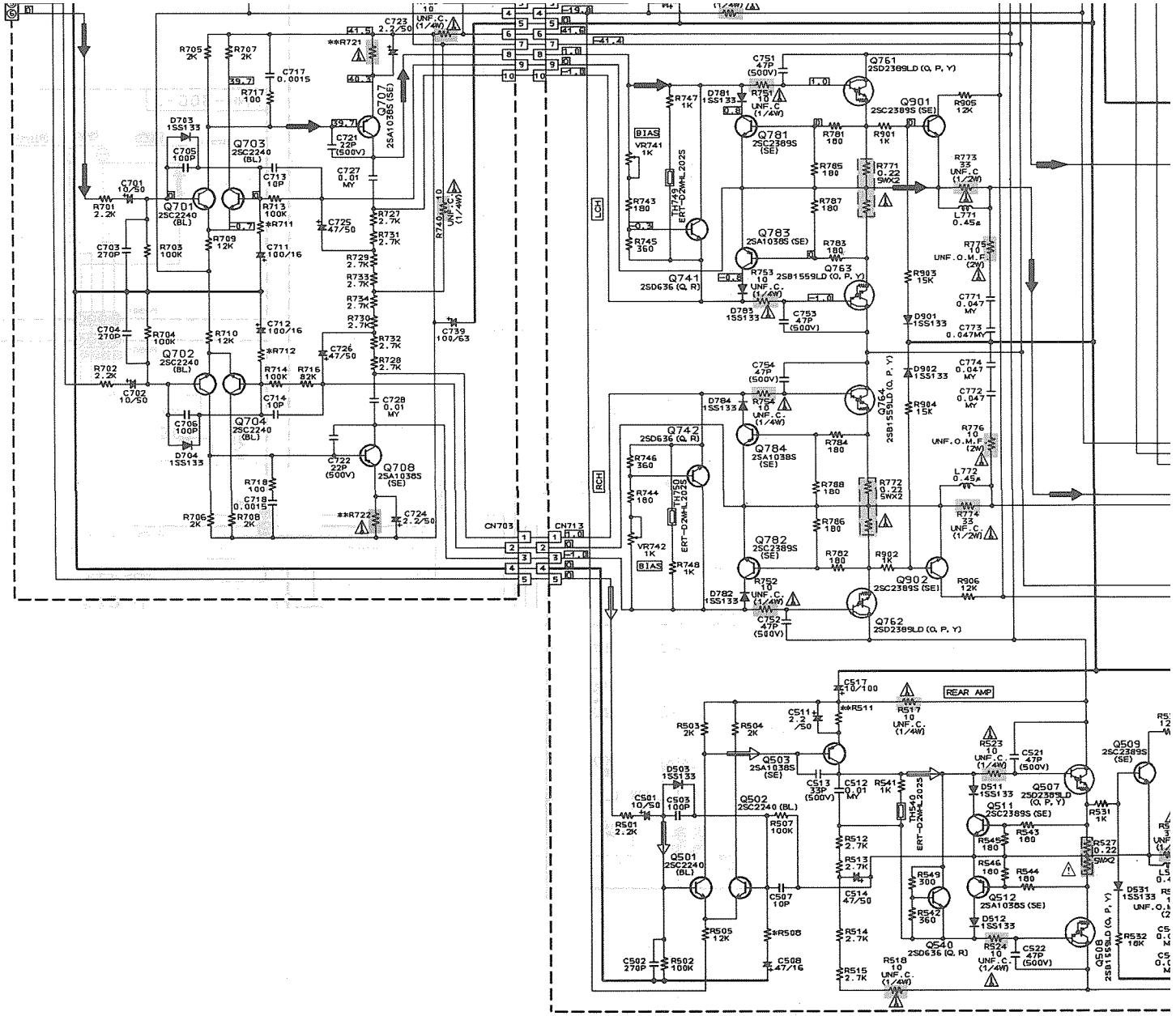
* MARK

	J	C
C543	SHORT	0.047MY
C544	0.022MY	0.047MY
C581	SHORT	0.047MY
C582	0.022MY	0.047MY
C771, 772	SHORT	0.047MY
C773, 774	0.022MY	0.047MY

P2-24-a P2-24-b



P2-24-c P2-24-d


LCH
RCH
REAR AMP
CN703
CN713
BIAS
Q701 2SC2240 (BL)
Q702 2SC2240 (BL)
Q703 2SC2240 (BL)
Q704 2SC2240
Q707 2SA1038S (SE)
Q708 2SA1038S (SE)
Q741 2SD636 (Q, R)
Q742 2SD636 (Q, R)
Q761 2SD2389LD (Q, P, Y)
Q762 2SD2389LD (Q, P, Y)
Q763 2SB1559LD (Q, P, Y)
Q764 2SB1559LD (Q, P, Y)
Q781 2SC2389S (SE)
Q782 2SC2389S (SE)
Q783 2SA1038S (SE)
Q784 2SA1038S (SE)
Q901 2SC2389S (SE)
Q902 2SC2389S (SE)
Q501 2SC2240 (BL)
Q502 2SC2240 (BL)
Q503 2SA1038S (SE)
Q507 2SD2389LD (Q, P, Y)
Q508 2SB1559LD (Q, P, Y)
Q509 2SC2389S (SE)
Q511 2SC2389S (SE)
Q512 2SA1038S (SE)
Q540 2SD636 (Q, R)

MAIN AMPLIFIER SECTION: USED US,UT,U VERSION

FOR U, UT, US

* MARK

	RX-3THBK	RX-5THPBK
	U, US, UT	U, US, UT
C811, 812	USED	NONE
C831, 832	NONE	USED
CNB31	NONE	USED
D815	USED	NONE
D832	NONE	USED
ICB31	NONE	USED
Q811	USED	NONE
R811, 812	USED	NONE
R852	NONE	USED
CPB53	USED	SHORT
R929, 930	NONE	USED
R955, 956	NONE	USED
CN955	NONE	USED
D831	NONE	USED

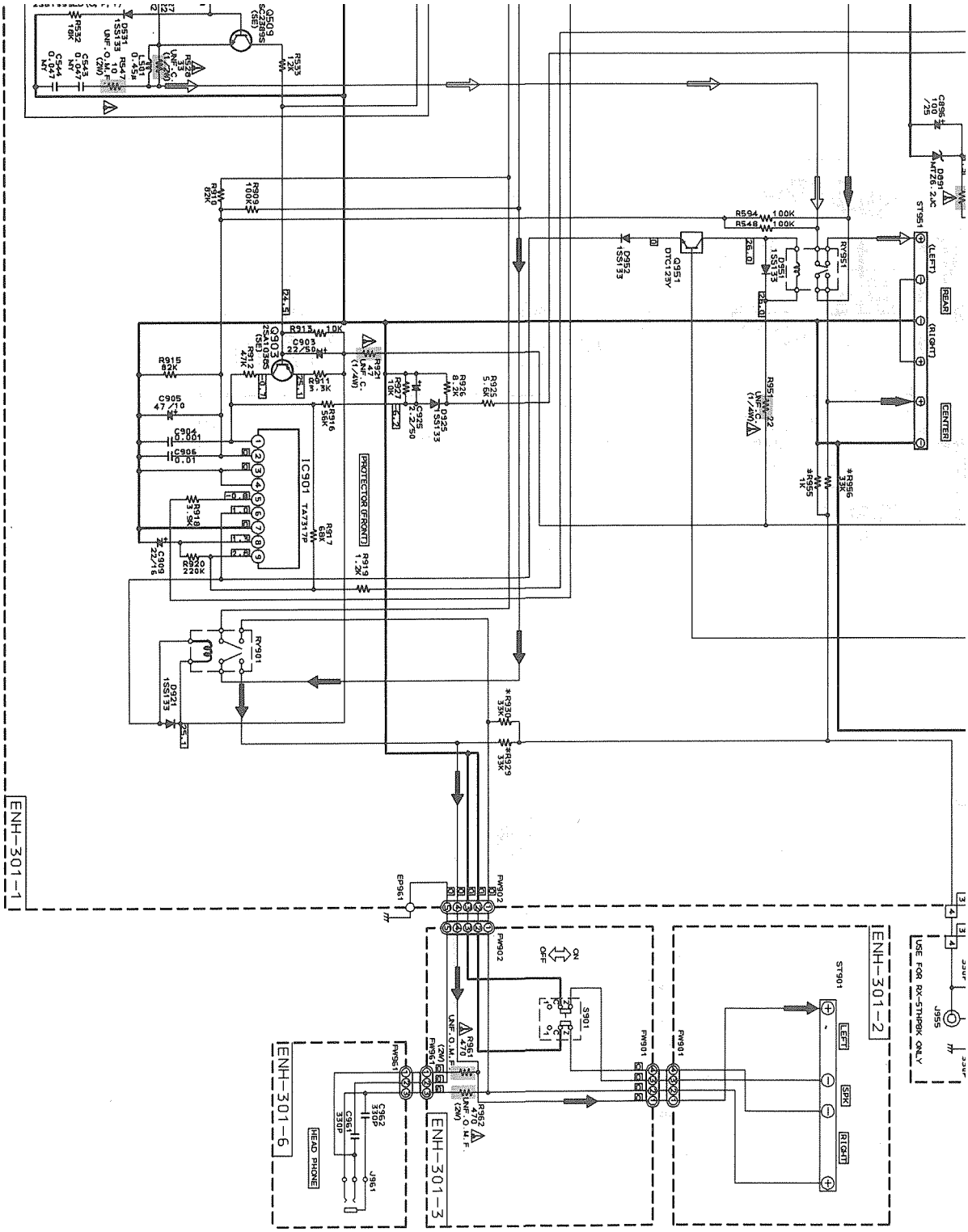
** MARK

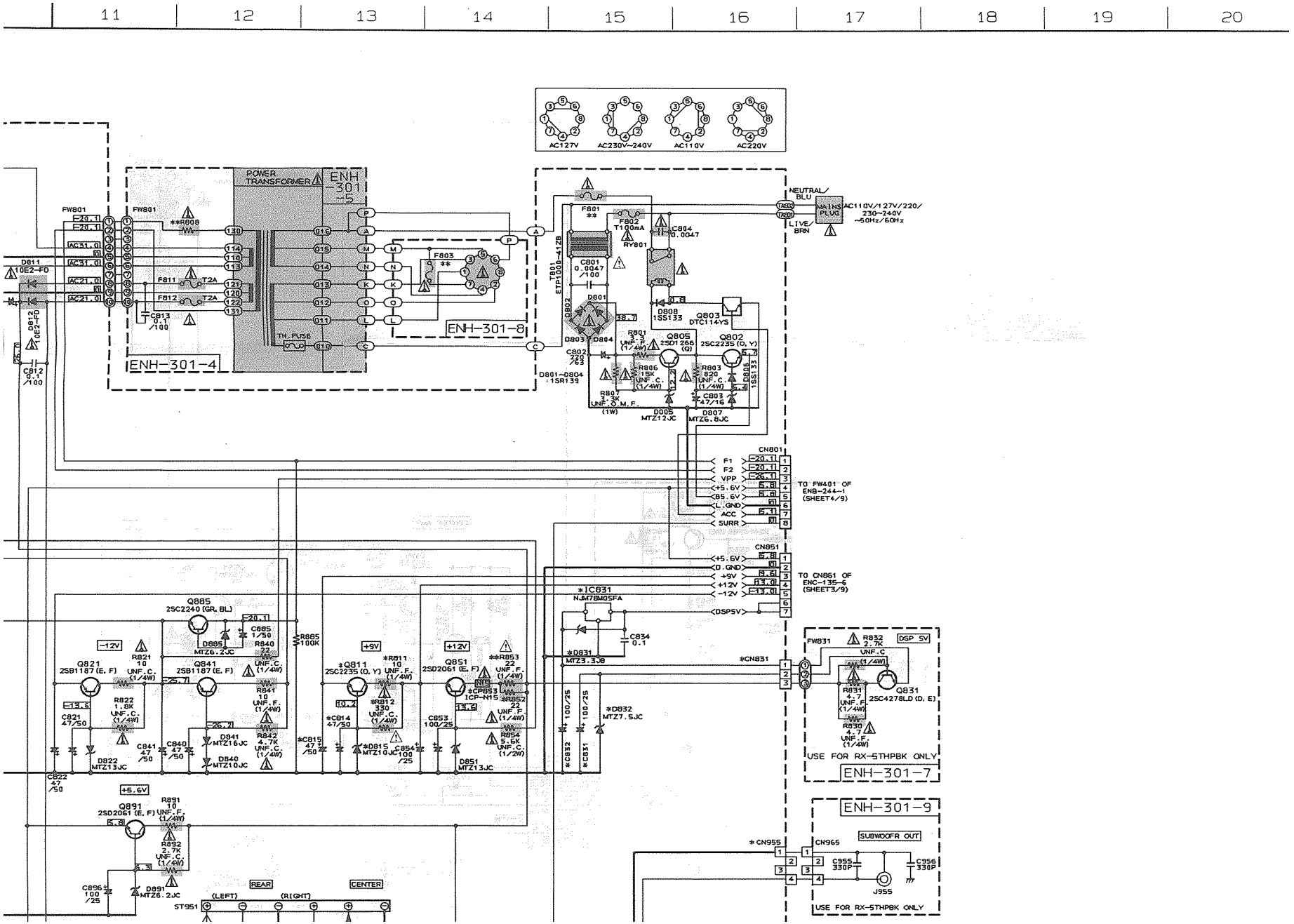
	RX-3THBK	RX-5THPBK
	U, US, UT	U, US, UT
R853	10 UNF.O.M.F. (2W)	22 UNF.F. (1/4W)
R808	3.3 UNF.C. (1/4W)	1.0 UNF.C. (1/4W)
R721, R722, R561, R511	300 UNF.C. (1/4W)	270 UNF.C. (1/4W)
R711, R712, R558, R508	910	620
F801	T3.15A	T4A
F803	T1.6A	T2A

ENB-245-2

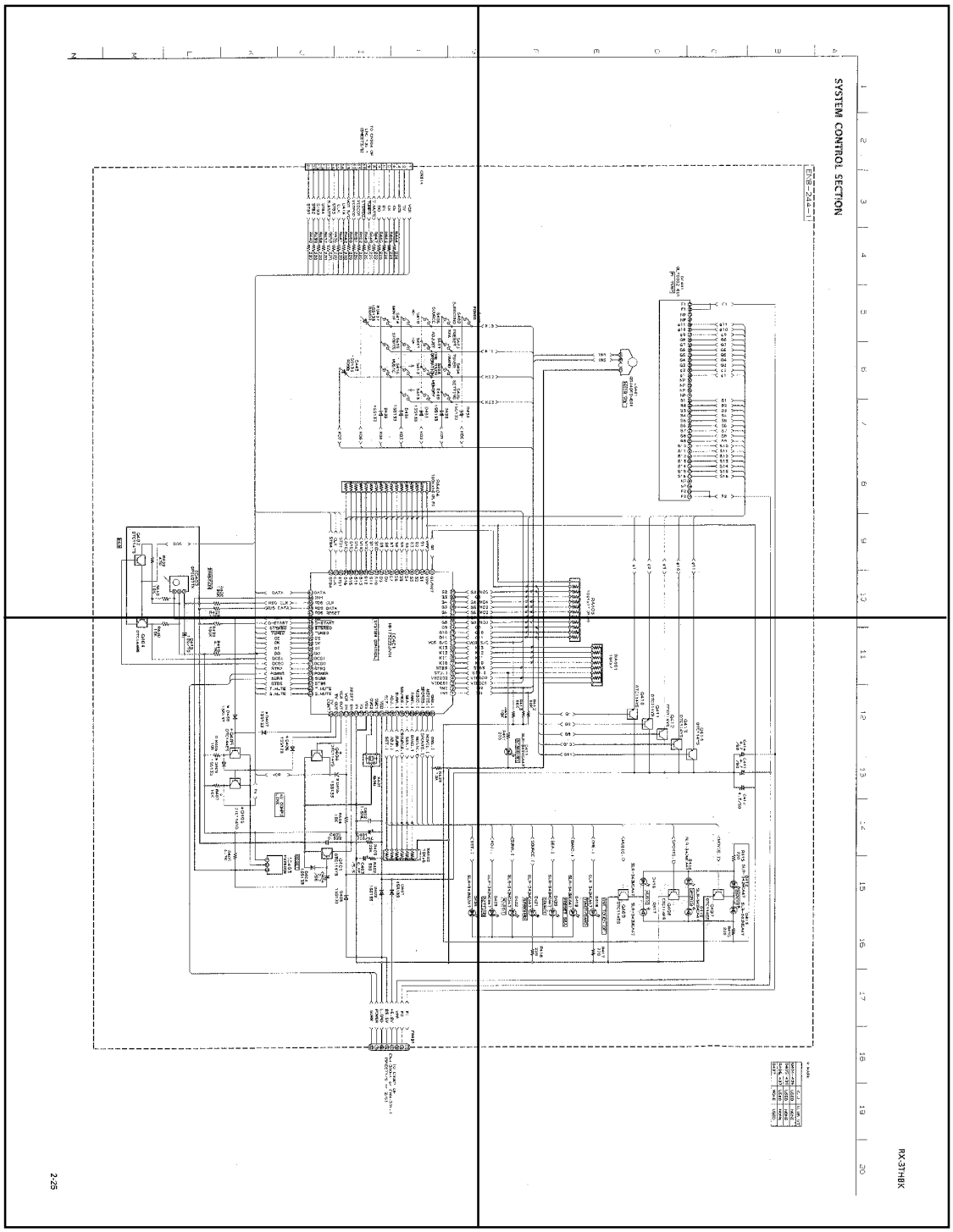
CENTER AMP

TO CN702 OF ENC-135-1 (SHEET3/9)

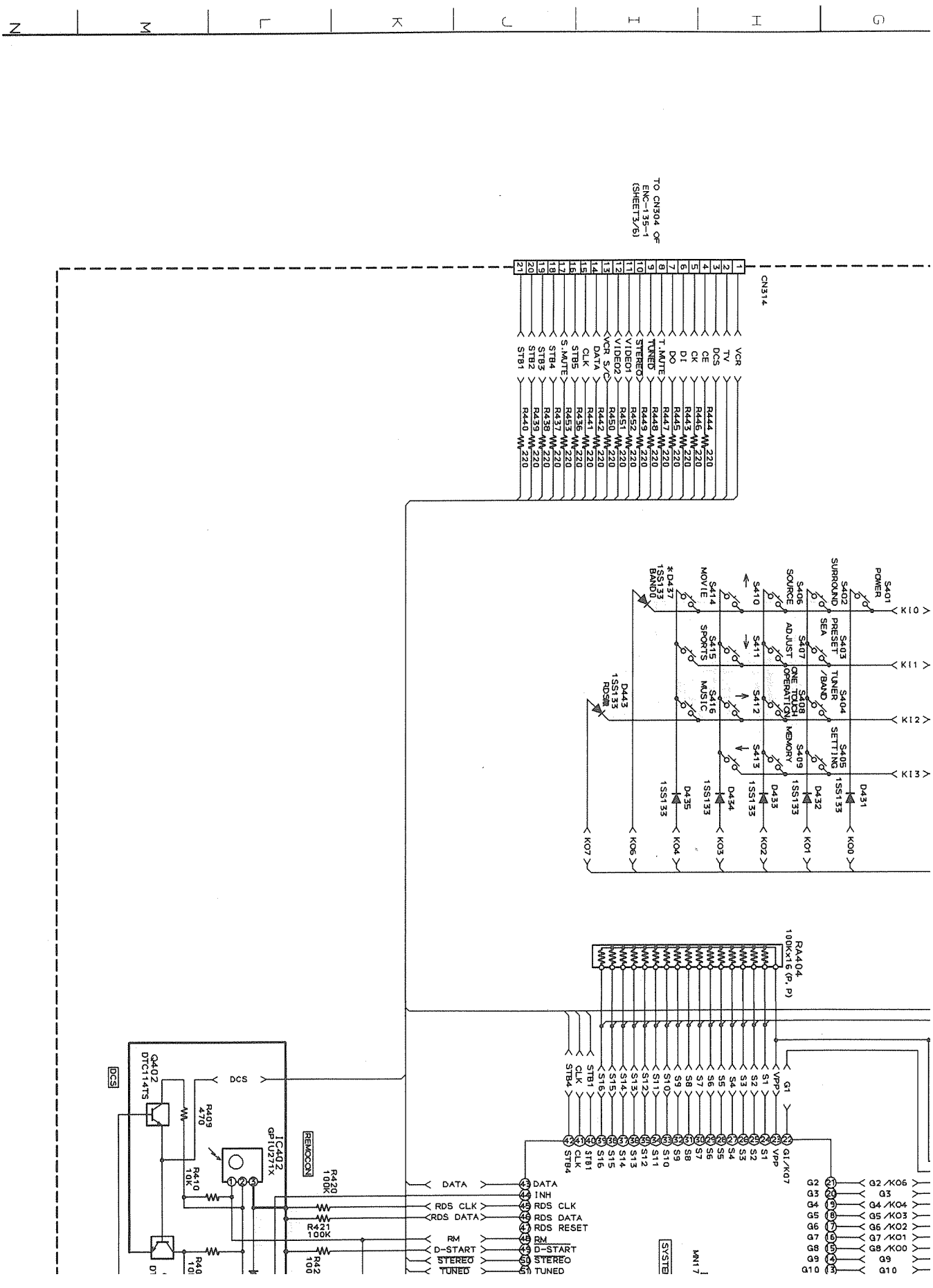

ENH-301-1
ENH-301-2
ENH-301-3
ENH-301-6
IC901 TA7317P
PROTECTOR (FRONT)
HEAD PHONE
USE FOR RX-5THPBK ONLY
(LEFT)
REAR
(RIGHT)
CENTER
SPK
ON
OFF

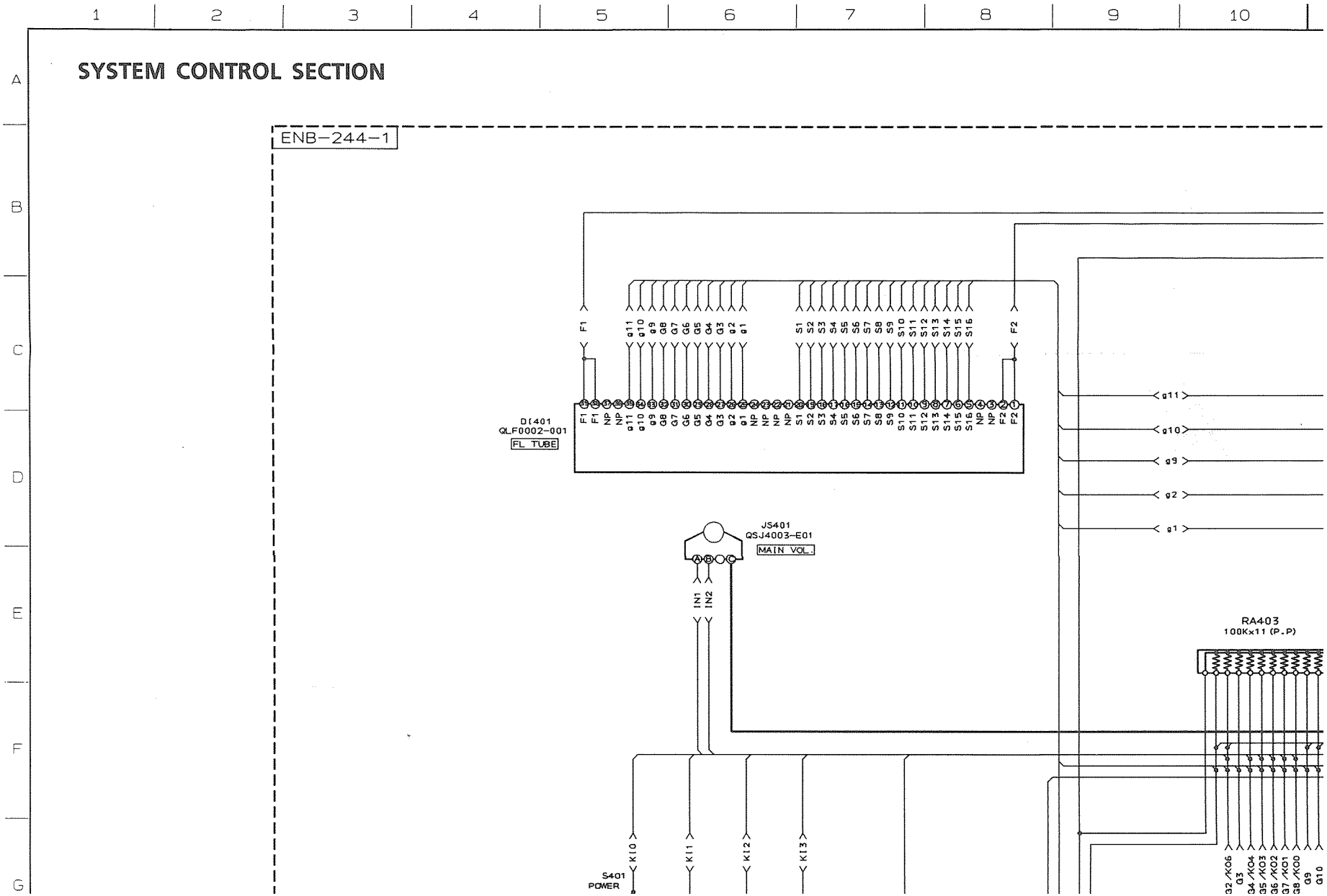

11
12
13
14
15
16
17
18
19
20
AC127V
AC230V~240V
AC110V
AC220V
POWER TRANSFORMER
ENH-301-5
ENH-301-4
ENH-301-8
ENH-301-7
ENH-301-9
NEUTRAL/BLU
LIVE/BRN
MAINS PLUG
AC110V/127V/220/230-240V ~50Hz/60Hz
TO FW401 OF ENB-244-1 (SHEET4/9)
TO CN861 OF ENC-135-6 (SHEET3/9)
USE FOR RX-5THPBK ONLY
SUBWOOFR OUT
REAR
CENTER
(LEFT)
(RIGHT)

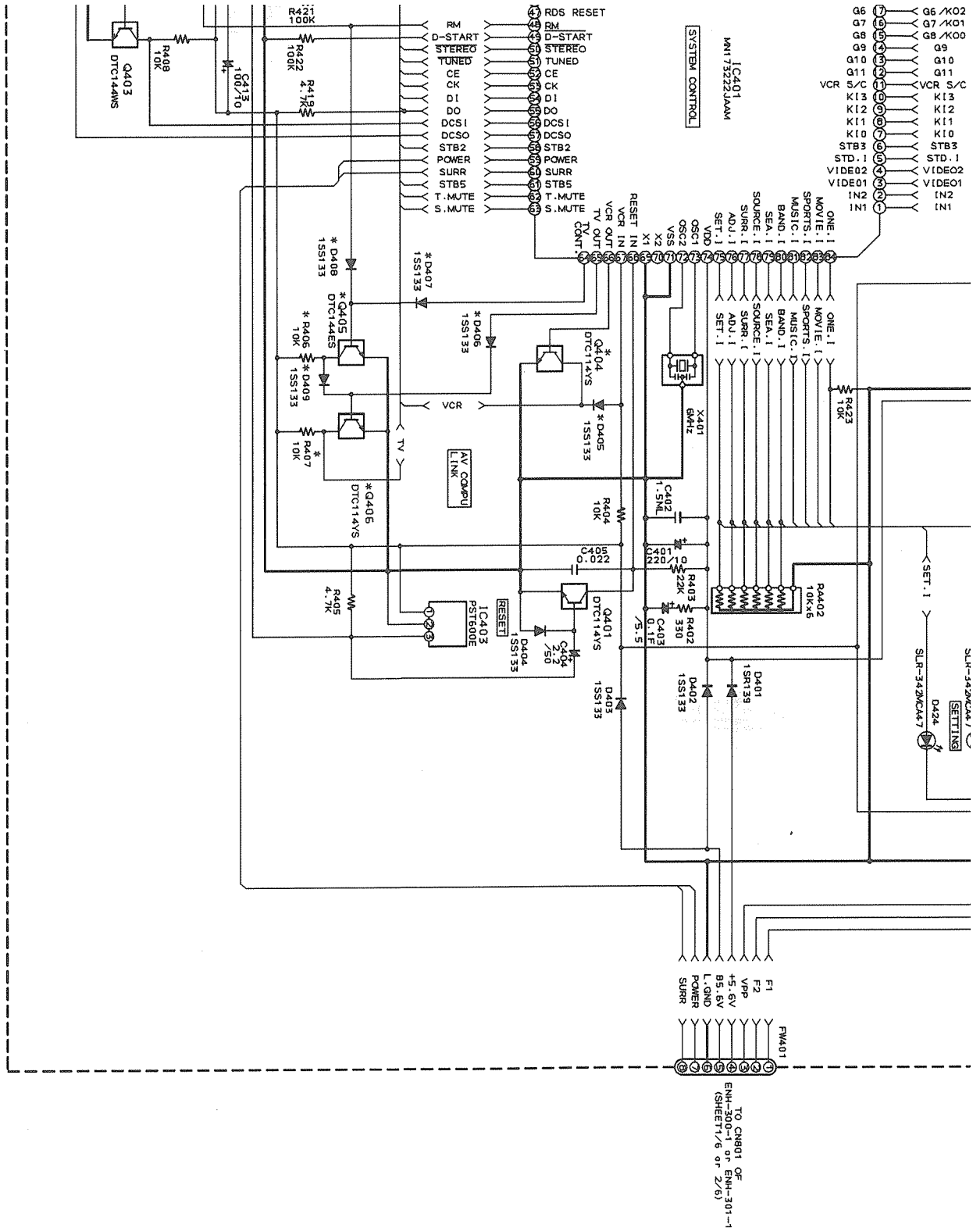
P2-25-a P2-25-b



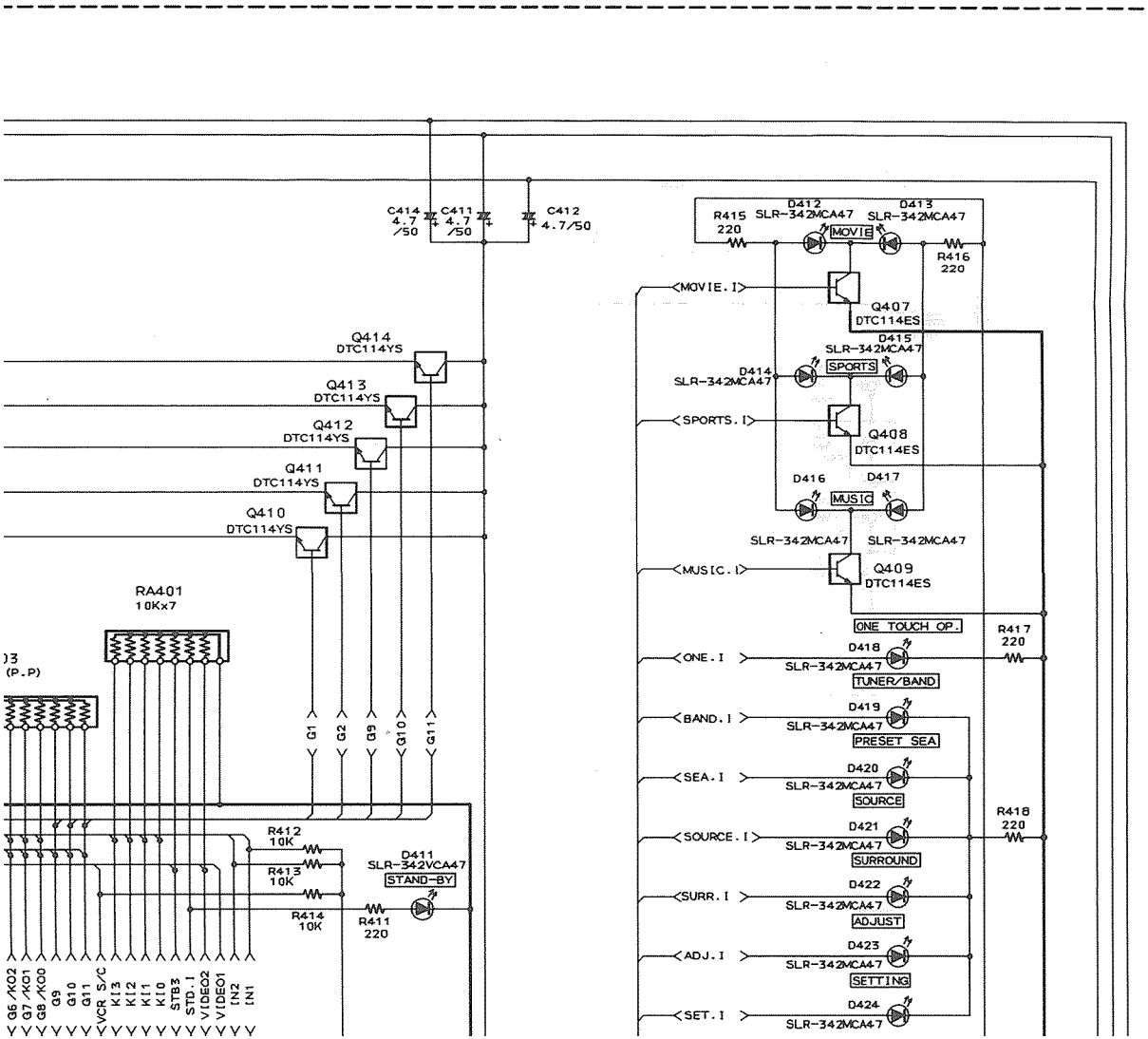
P2-25-c P2-25-d


TO CN304 OF ENC-135-1 (SHEET3/6)
CN314
VCR
TV
DCS
CE
CK
DI
DO
T.MUTE
TUNED
STEREO
VIDEO1
VIDEO2
VCR S/C
DATA
CLK
S.MUTE
STB5
STB4
STB3
STB2
STB1
R444 220
R446 220
R443 220
R445 220
R447 220
R448 220
R449 220
R452 220
R451 220
R450 220
R442 220
R441 220
R453 220
R437 220
R438 220
R439 220
R440 220
S401 POWER
S402 SURROUND
S403 PRESET SEA
S404 TUNER /BAND
S405 SETTING
S406 SOURCE
S407 ADJUST
S408 ONE TOUCH OPERATION
S409 MEMORY
S410
S411
S412
S413
S414 MOVIE
S415 SPORTS
S416 MUSIC
D437 1SS133 BAND
D443 1SS133 RDS
D431 1SS133
D432 1SS133
D433 1SS133
D434 1SS133
D435 1SS133
KI0
KI1
KI2
KI3
KO0
KO1
KO2
KO3
KO4
KO5
KO6
KO7
RA404 100Kx16 (P.P)
STB4
CLK
STB1
S16
S15
S14
S13
S12
S11
S10
S9
S8
S7
S6
S5
S4
S3
S2
S1
VPP
G1
G1/KO7
G2
G3
G4
G5
G6
G7
G8
G9
G10
G2/KO6
G3
G4/KO4
G5/KO3
G6/KO2
G7/KO1
G8/KO0
G9
G10
DCS
Q402 DTC114TS
R409 470
IC402 GP1U271X
REMOCON
R410 10K
R420 100K
R421 100K
R42 100
DATA
INH
RDS CLK
RDS DATA
RDS RESET
RM
D-START
STEREO
TUNED
SYSTE
MN17


SYSTEM CONTROL SECTION
ENB-244-1
DI401
QLF0002-001
FL TUBE
JS401
QSJ4003-E01
MAIN VOL.
RA403
100Kx11 (P.P)
S401
POWER


SYSTEM CONTROL
IC401
MN1732223AAM
RDS RESET
RM
D-START
STEREO
TUNED
CE
CK
DI
DO
DCS I
DCSO
STB2
POWER
SURR
STB5
T.MUTE
S.MUTE
G6 /KO2
G7 /KO1
G8 /KO0
G9
G10
G11
VCR S/C
KI3
KI2
KI1
KI0
STB3
STD.I
VIDEO2
VIDEO1
IN2
IN1
ONE.I
MOVIE.I
SPORTS.I
MUSIC.I
BAND.I
SEA.I
SOURCE.I
SURR.I
ADJ.I
SET.I
TV OUT
VCR OUT
VCR IN
RESET IN
X1
X2
VSS
OSC2
OSC1
VDD
TV CONT.
Q403 DTC144WS
R408 10K
C413 10/10
R421 100K
R422 100K
R418 4.7K
D408 1SS133
D407 1SS133
Q405 DTC144ES
D406 1SS133
R406 10K
D409 1SS133
R407 10K
Q405 DTC114YS
R405 4.7K
IC403 PST600E
RESET
D404 1SS133
Q404 DTC114YS
D405 1SS133
X401 6MHz
C402 1.5NL
C401 220
C405 0.02
R404 10K
R403 22K
C404 /50
C403 0.1F
Q401 DTC114YS
R402 330
D402 1SS133
D403 1SS133
D401 1SR139
R423 10K
R4402 10Kx6
SET.I
SLR-342KCA47
D424
SETTING
AV COMPU LINK
VCR
TV
F1
F2
VPP
+5.6V
B5.6V
L.GND
POWER
SURR
FW401
TO CN801 OF ENH-301-1 or ENH-301-1 (SHEET1/6 or 2/6)

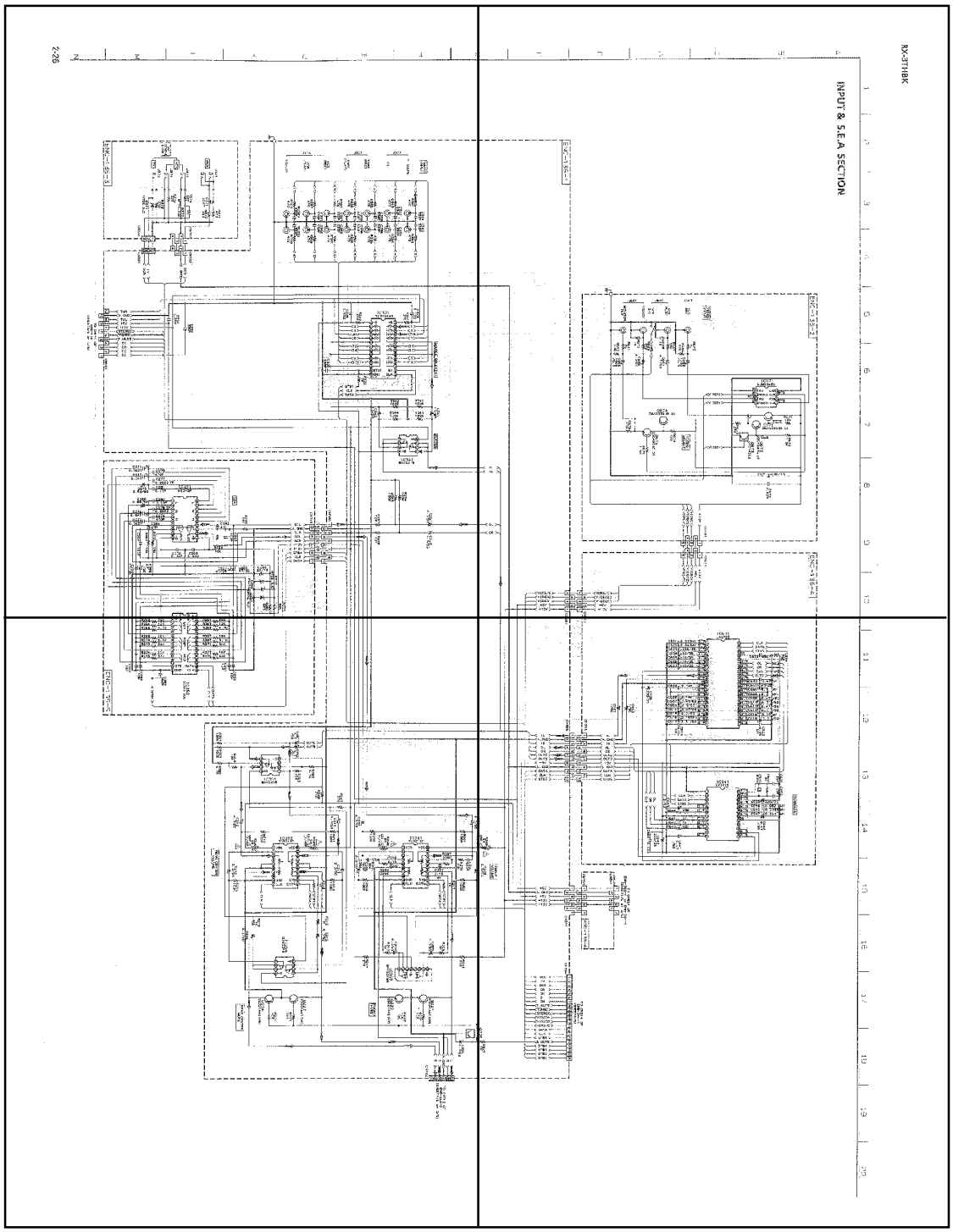
11 12 13 14 15 16 17 18 19 20



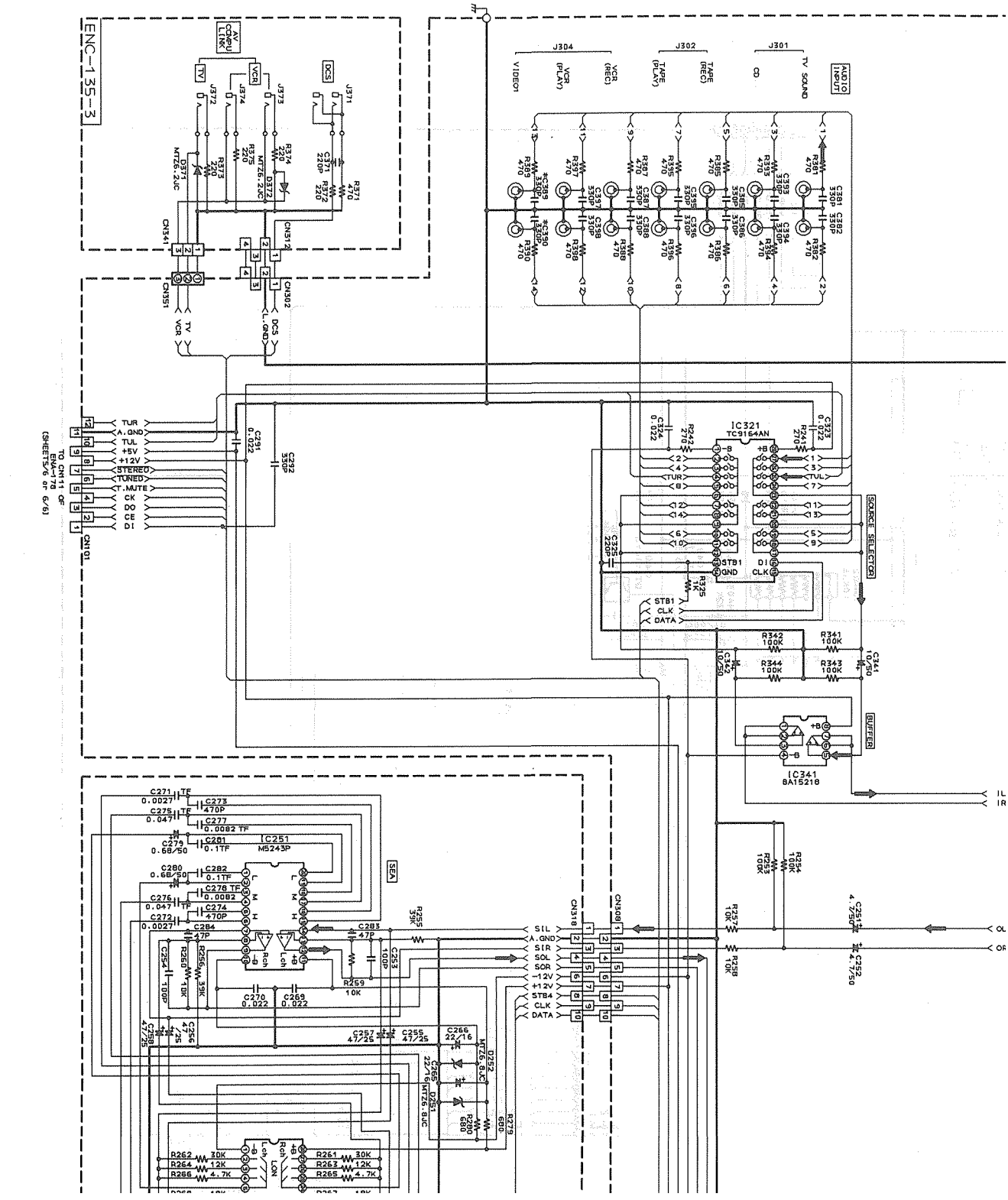
* MARK

	C. J	U, US. UT
Q404-406	USED	NONE
D405-409	USED	NONE
R406, 407	USED	NONE
D437	NONE	USED

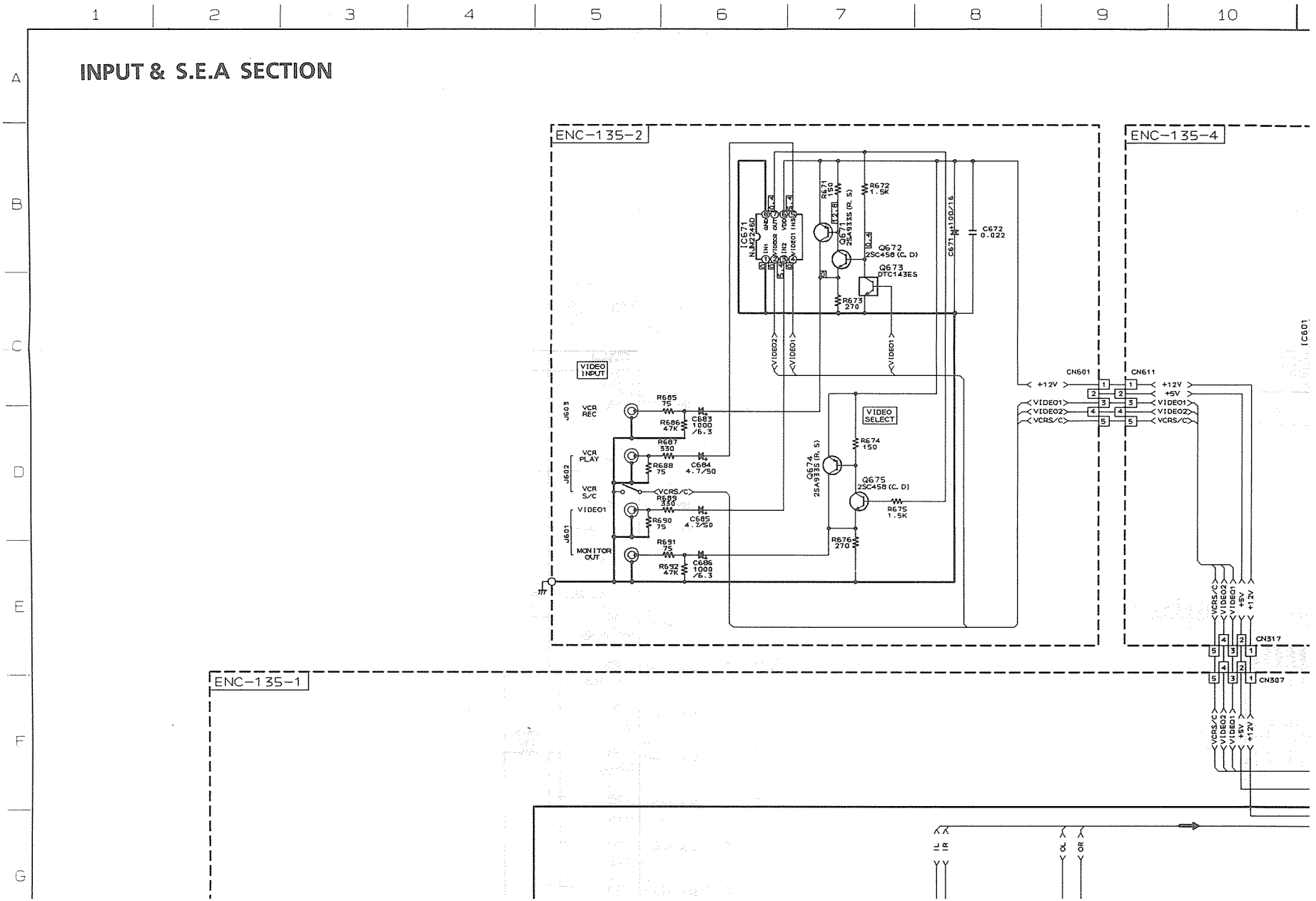
P2-26-a P2-26-b

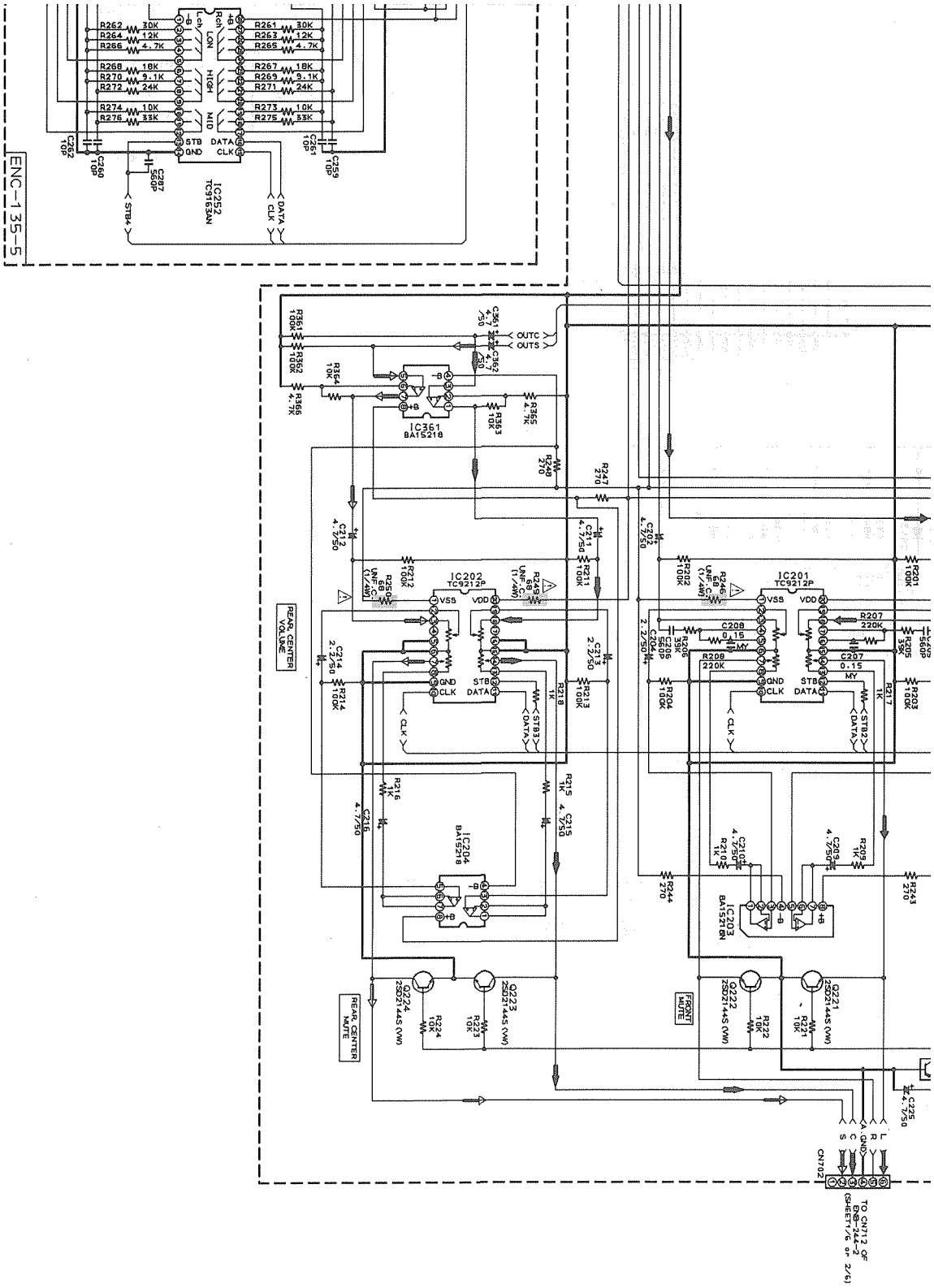


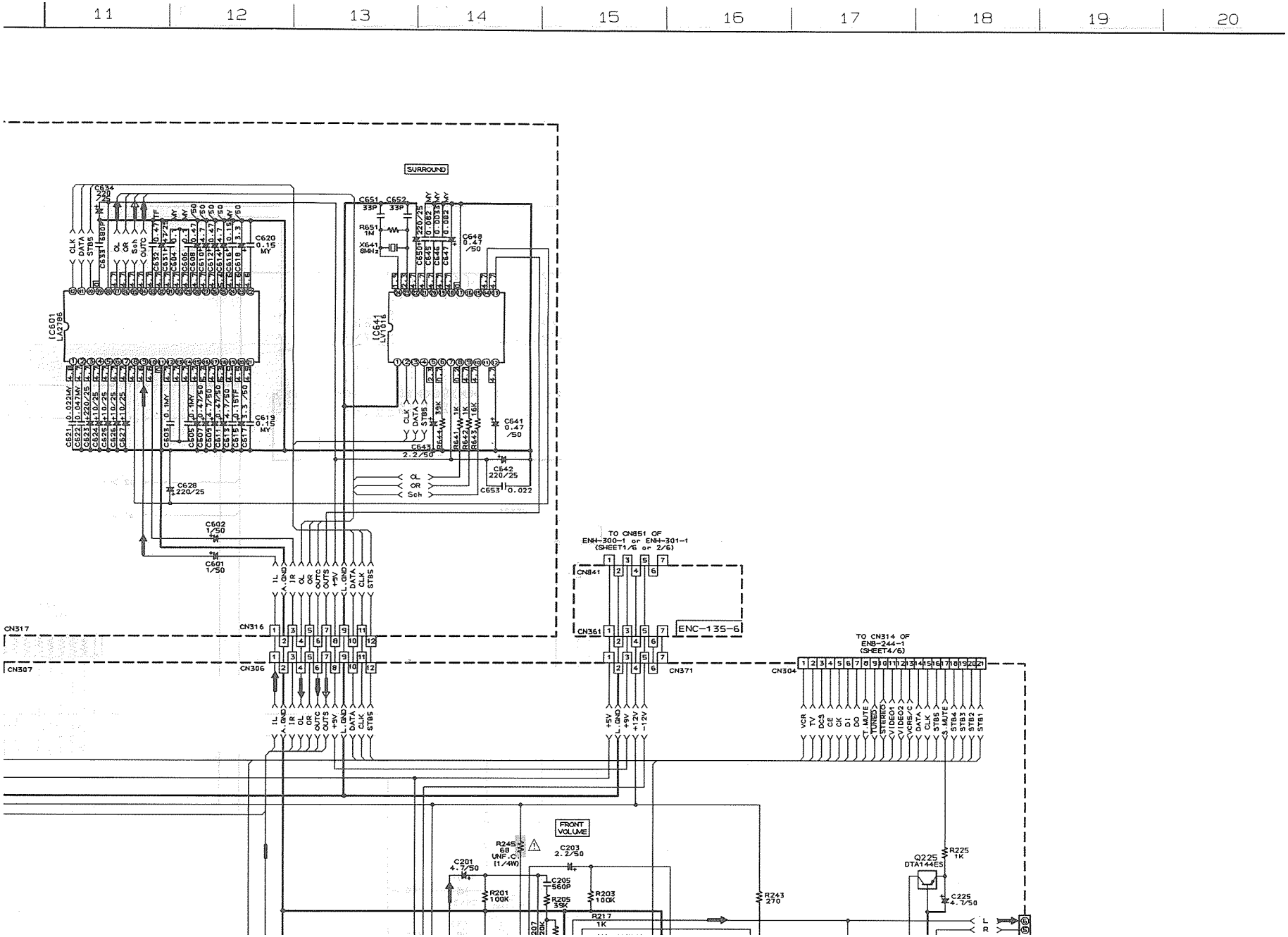
P2-26-c P2-26-d


ENC-135-3
J304
J302
J301
VIDEO1
VCR (PLAY)
VCR (REC)
TAPE (PLAY)
TAPE (REC)
CD
TV SOUND
AUDIO INPUT
AV COMPU LINK
TV
VCR
DCS
CN341
CN351
CN302
IC321
TC9164AN
SOURCE SELECTOR
BUFFER
IC341
BA15218
IC251
MS243P
SEA
CN309
CN318
TUR
A.GND
TUL
+5V
+12V
STEREO
TUNED
T.MUTE
CK
DO
CE
DI
CN101
STB1
CLK
DATA
SIL
SIR
SOL
SOR
-12V
+12V
STB4

INPUT & S.E.A SECTION




ENC-135-5
IC202
TC9212P
IC201
TC9212P
IC361
BA15218
IC204
BA15218
IC203
BA15218N
REAR CENTER VOLUME
REAR CENTER MUTE
FRONT MUTE
CN702
TO CN712 OF Z (SHEET 1/6 OF 2/6)


11
12
13
14
15
16
17
18
19
20
SURROUND
IC601
LA2786
IC641
LC7516
CN317
CN316
CN306
CN307
CN841
CN361
CN371
CN304
ENC-135-6
TO CN851 OF
ENH-300-1 or ENH-301-1
(SHEET1/6 or 2/6)
TO CN314 OF
ENB-244-1
(SHEET4/6)
FRONT
VOLUME
Q225
DTA144ES
R225
1K
R243
270
R217
1K
R201
100K
R203
100K
R205
39K
C205
560P
C203
2.2/50
C201
4.7/50
C225
4.7/50
R245
68
UNF.C.
(1/4W)
C628
220/25
C642
220/25
C643
2.2/50
C641
0.47
/50
C648
0.47
/50
C620
0.15
MY
C602
1/50
C601
1/50
C653
0.022
CLK
DATA
STBS
OL
OR
Sch
OUTC
VCR
TV
DCS
CE
CK
DI
DO
MUTE
TUNED
STEREO
VIDEO1
VIDEO2
VCRS/C
STB4
STB3
STB2
STB1
+5V
GND
+9V
+12V
-12V

PARTS LIST

* All printed circuit boards and its assemblies are not available as service parts.

The Marks for Designated Areas
J · · · the U.S.A.
C · · · Canada
U · · · Universal Type
US · · · Singapore
UT · · · Taiwan
No marks indicates all areas.

- Contents -

General Exploded View and Parts List · 3-2
Electrical Parts List · 3-4
(ENH-300M) · 3-4
(ENH-301M) · 3-5
(ENC-135M) · 3-7
(ENB-244M) · 3-9
(ENA-178AM) · 3-11
(ENA-178DM) · 3-12
Accessories List · 3-13
Packing Materials and Part Numbers · 3-14

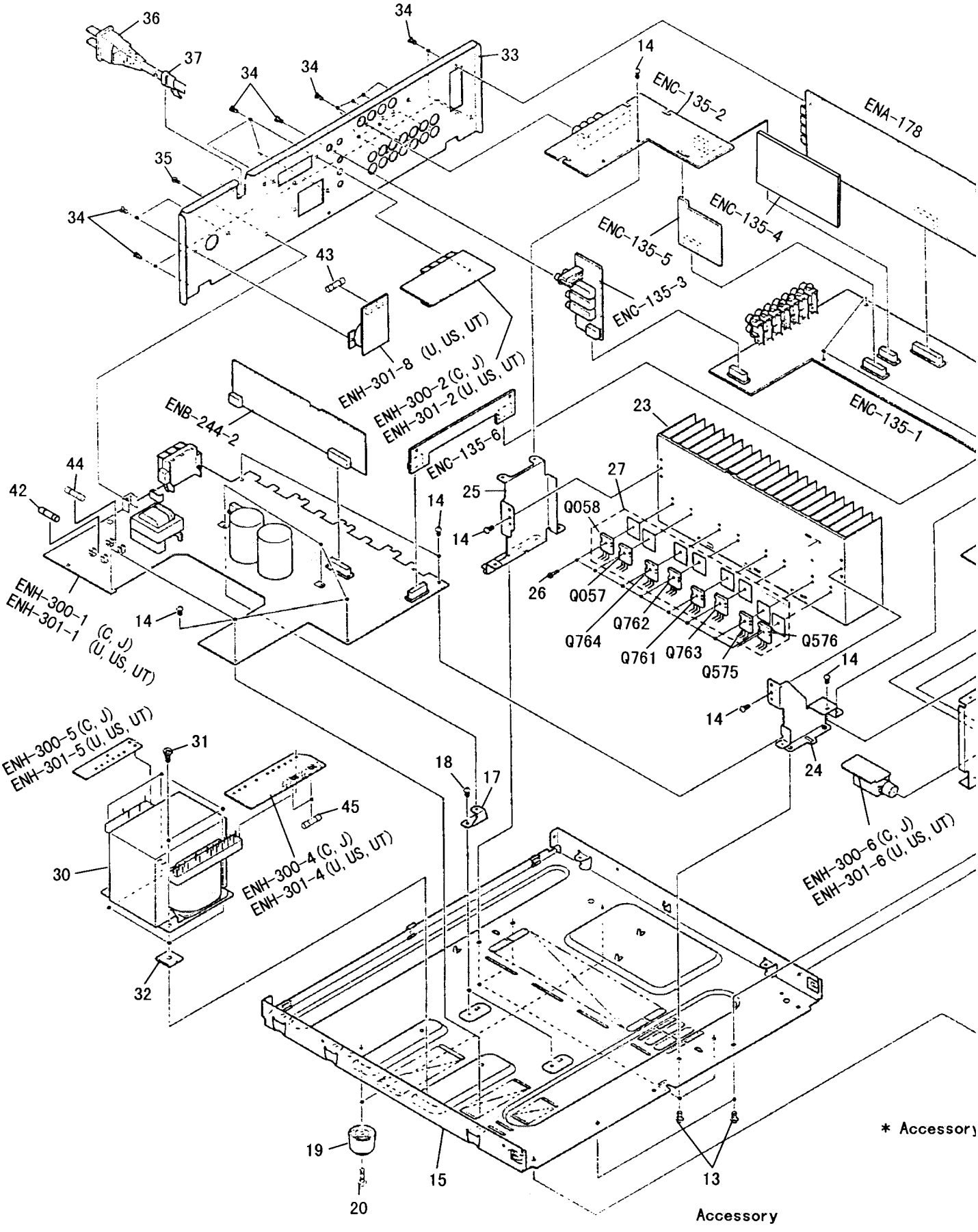
■ Parts List

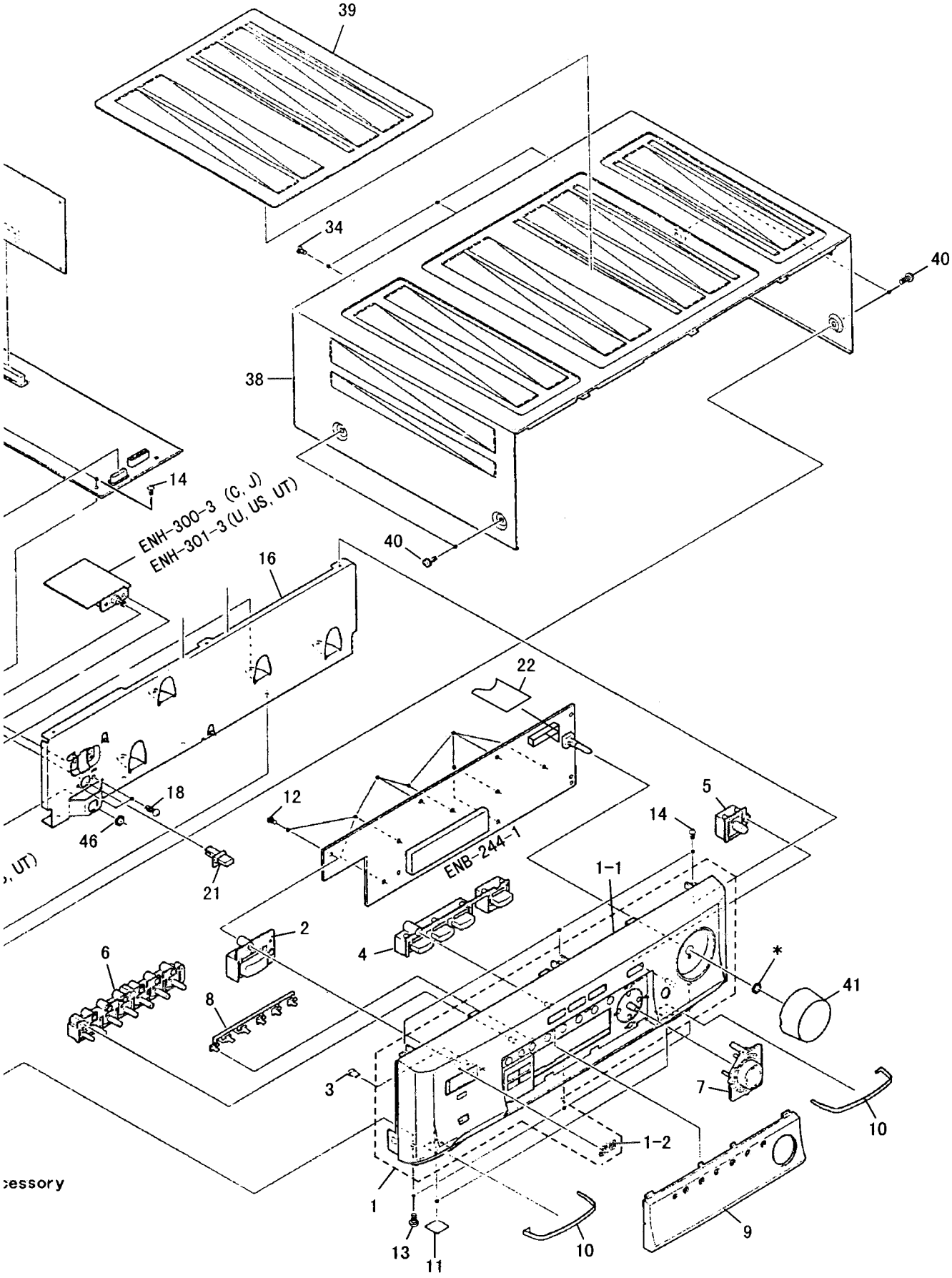
Block No. M1MM

⚠	Item	Parts Number	Parts Name	Q'ty	Description	Area
	1	EFP-RX3THBKU(S)	FRONT PANEL	1		C J
		EFP-RX3THBKJ(S)	FRONT PANEL	1		U US UT
	1-1	E103255-009SM	FRONT PANEL	1		C J
		E103255-010SM	FRONT PANEL	1		U US UT
	1-2	PQ45130-1-1	JVC MARK	1		
	2	E310167-001SM	PUSH BUTTON	1	POWER	
	3	FSJD4001-002	INDICATOR LENS	1	POWER	
	4	E209161-002SM	PUSH BUTTON	1	S.CONTROL	
	5	E310212-001SM	PUSH BUTTON	1	O.T.OPERATE	
	6	E209112-001SM	PUSH BUTTON	1	SOURCE	
	7	E209111-001SM	PUSH BUTTON	1	CURSOL	
	8	E310166-001SM	INDICATOR LENS	1	SOURCE	
	9	E209109-001SM	WINDOW SCREEN	1		
	10	E310174-001SM	RING	2		
	11	E406855-010	SPACER	2		
	12	SDSF2608Z	SCREW	9		
	13	SDSG3008M	TAPPING SCREW	9		
	14	SBSG3008CC	TAPPING SCREW	18		
	15	E103253-001SM	CHASSIS BASE	1		
	16	E209113-002SM	FRONT BRACKET	1		
	17	E68587-223SM	P.C.BOARD BRACKET	2		
	18	SBST3006CC	TAPPING SCREW	4		
	19	E47227-041SM	FOOT ASSY	2		
	20	SBST3010Z	TAPPING SCREW	2		
	21	E310170-001SM	PUSH BUTTON	1		
	22	VWF1221-16TTB	FLAT WIRE	1	FW304	
	23	E309840-004SM	HEAT SINK	1		
	24	E310171-001SM	HEAT SINK BRACKET	1		
	25	E310172-001SM	HEAT SINK BRACKET	1		
	26	E73525-003	SCREW	8		
	27	JCE8002	TRANSISTOR KIT	2	2SB1559LD/0PY/ (Q058,Q576,Q763,Q764) 2SD2389LD/0PY/ (Q575,Q761,Q762,Q057)	U,US,UT
		JCE8004	TRANSISTOR KIT	2	2SB1624LD/0PY/ (Q058,Q576,Q763.Q764) 2SD2493LD/0PY/ (Q057,Q575,Q761,Q762)	J,C
⚠	30	QQT0163-001	POWER TRANSFORMER	1		U US UT
⚠		QQT0163-002	POWER TRANSFORMER	1		C J
	31	E65389-006	SPECIAL SCREW	4		
	32	E406309-002	SPACER	4		
	33	E209114-012SM	REAR PANEL	1		C J
		E209114-013SM	REAR PANEL	1		U US UT
	34	E73273-006	SPECIAL SCREW	19		U US UT
	35	SBST3006M	TAPPING SCREW	1		
⚠	36	QMP1480-200L	POWER CORD	1		C J
⚠		QMP39E0-200	POWER CORD	1		US
⚠		QMP7520-200	POWER CORD	1		U UT
⚠	37	QHS3771-108	CORD STOPPER	1		
	38	E209116-004(S)	METAL COVER	1		
	39	E208294-001	PROTECT SHEET	1		U US UT
	40	E406308-003	SPECIAL SCREW	4		
	41	E310173-001SM	VOLUME KNOB	1		
⚠	42	QMF0007-3R15J1	FUSE	1	F801(3.15A/125V)	J C
⚠		QMF51E2-3R15J1	FUSE	1	F801(T3.15A/250V)	U US UT
⚠	43	QMF51E2-1R6J1	FUSE	1	F803(T1.6A/250V)	U US UT
⚠	44	QMF51A2-R10S	FUSE	1	F802(T0.1A/250V)	U US UT
⚠	45	QMF0007-2R0J1	FUSE	2	F811,F812(2.0A/125V)	C J
⚠		QMF51E2-2R0	FUSE	2	F811,F812(T2.0A/250V)	U US UT
	46	VKZ4150-001	SPECIAL NUT	1		

General Exploded View and Parts List

Block No. M1MM




39
34
40
38
40
14
ENH-300-3 (C, J)
ENH-301-3 (U, US, UT)
16
22
18
12
5
14
46
ENB-244-1
1-1
21
2
4
*
41
6
8
3
7
10
1-2
1
9
13
11
10

Electrical Parts List (ENH-300M) * Only for J and C

⚠	Item	Parts Number	Description	Area
		I.C.S		
	IC901	TA7317P	I.C(MONO-ANALOG)	
		DIODES		
	D503	1SS133	SI.DIODE	
	D511	1SS133	SI.DIODE	
	D512	1SS133	SI.DIODE	
	D531	1SS133	SI.DIODE	
	D585	1SS133	SI.DIODE	
	D586	1SS133	SI.DIODE	
	D591	1SS133	SI.DIODE	
	D781	1SS133	SI.DIODE	
	D782	1SS133	SI.DIODE	
	D783	1SS133	SI.DIODE	
	D784	1SS133	SI.DIODE	
	D801	1SR139-200	SI.DIODE	
	D802	1SR139-200	SI.DIODE	
	D803	1SR139-200	SI.DIODE	
	D804	1SR139-200	SI.DIODE	
	D806	1SS133	SI.DIODE	
	D807	MTZ6.8JC	ZENER DIODE	
	D808	1SS133	SI.DIODE	
⚠	D811	10E2-FD	DIODE	
⚠	D812	10E2-FD	DIODE	
	D815	MTZ10JC	ZENER DIODE	C J
	D822	MTZ13JC	ZENER DIODE	
	D840	MTZ10JC	ZENER DIODE	
	D841	MTZ16JC	ZENER DIODE	
	D851	MTZ13JC	ZENER DIODE	
	D861	30D2FC	GE.DIODE	
	D862	30D2FC	GE.DIODE	
	D863	30D2FC	GE.DIODE	
	D864	30D2FC	GE.DIODE	
	D885	MTZ6.2JC	ZENER DIODE	
	D891	MTZ6.2JC	ZENER DIODE	
	D901	1SS133	SI.DIODE	
	D902	1SS133	SI.DIODE	
	D921	1SS133	SI.DIODE	
	D925	1SS133	SI.DIODE	
	D951	1SS133	SI.DIODE	
	D952	1SS133	SI.DIODE	
		TRANSISTORS		
	Q501	2SC2240(BL)	SI.TRANSISTOR	
	Q502	2SC2240(BL)	SI.TRANSISTOR	
	Q503	2SA1038(R,S)	SI.TRANSISTOR	
	Q509	2SC2389(S,E)	SI.TRANSISTOR	
	Q511	2SC2389(S,E)	SI.TRANSISTOR	
	Q512	2SA1038(R,S)	SI.TRANSISTOR	
	Q540	2SD636	SI.TRANSISTOR	
	Q568	2SD636	SI.TRANSISTOR	
	Q585	2SC2389(S,E)	SI.TRANSISTOR	
	Q586	2SA1038(R,S)	SI.TRANSISTOR	
	Q591	2SC2389(S,E)	SI.TRANSISTOR	
	Q741	2SD636	SI.TRANSISTOR	
	Q742	2SD636	SI.TRANSISTOR	
	Q781	2SC2389(S,E)	SI.TRANSISTOR	
	Q782	2SC2389(S,E)	SI.TRANSISTOR	
	Q783	2SA1038(R,S)	SI.TRANSISTOR	
	Q784	2SA1038(R,S)	SI.TRANSISTOR	
	Q802	2SC2235(O,Y)	SI.TRANSISTOR	
	Q803	DTC114ES	DIGITAL TRANSISTOR	
	Q811	2SC2235(O,Y)	SI.TRANSISTOR	C J
	Q821	2SB1187(F,G)	SI.TRANSISTOR	
	Q841	2SB1187(F,G)	SI.TRANSISTOR	
	Q851	2SD2061(F,G)	SI.TRANSISTOR	
	Q885	2SC2240(GR,BL)	SI.TRANSISTOR	
	Q891	2SD2061(F,G)	SI.TRANSISTOR	
	Q901	2SC2389(S,E)	SI.TRANSISTOR	
	Q902	2SC2389(S,E)	SI.TRANSISTOR	
	Q903	2SA1038(R,S)	SI.TRANSISTOR	
	Q951	DTC123YS	SI.TRANSISTOR	
		CAPACITORS		
	C501	QETB1HM-106	10MF 50V E.CAP.	
	C502	QCS21HJ-271A	270PF 50V CER.CAP.	
	C503	QCS21HJ-101A	100PF 50V CER.CAP.	
	C507	QCS21HJ-100	10PF 50V CER.CAP.	
	C508	QETB1CM-476	47MF 16V AL E.CAP.	

⚠	Item	Parts Number	Description	Area
	C511	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C512	QFLB1HJ-103	0.01MF 50V MYLAR CAP.	
	C513	QCS22HJ-330	33PF 500V CER.CAP.	
	C514	QETB1HM-476	47MF 50V E.CAP.	
	C517	QETB2AM-106	10MF 100V AL E.CAP.	
	C521	QCS22HJ-470A	47PF 500V CER.CAP.	
	C522	QCS22HJ-470A	47PF 500V CER.CAP.	
	C543	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	C
	C544	QFLB1HJ-223	0.022MF 50V MYLAR CAP.	J
		QFLB1HJ-473	0.047MF 50V MYLAR CAP.	C
	C571	QCS22HJ-470A	47PF 500V CER.CAP.	
	C572	QCS22HJ-470A	47PF 500V CER.CAP.	
	C581	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	C
	C582	QFLB1HJ-223	0.022MF 50V MYLAR CAP.	J
		QFLB1HJ-473	0.047MF 50V MYLAR CAP.	C
	C751	QCS22HJ-470A	47PF 500V CER.CAP.	
	C752	QCS22HJ-470A	47PF 500V CER.CAP.	
	C753	QCS22HJ-470A	47PF 500V CER.CAP.	
	C754	QCS22HJ-470A	47PF 500V CER.CAP.	
	C771	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	C
	C772	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	C
	C773	QFLB1HJ-223	0.022MF 50V MYLAR CAP.	J
		QFLB1HJ-473	0.047MF 50V MYLAR CAP.	C
	C774	QFLB1HJ-223	0.022MF 50V MYLAR CAP.	J
		QFLB1HJ-473	0.047MF 50V MYLAR CAP.	C
	C801	QFN82AK-472	4700PF 100V METAL.MYLAR	
	C802	QETB1EM-227	220MF 25V AL E.CAP.	
	C803	QETB1CM-476	47MF 16V AL E.CAP.	
⚠	C804	QCZ9019-472	4700PF C.CAP.	
	C811	QETB1VM-228N	2200MF 35V E.CAP.	
	C812	QFN82AJ-104	0.1MF 100V MYLAR CAP.	
	C813	QFN82AJ-104	0.1MF 100V MYLAR CAP.	
	C814	QETB1HM-476	47MF 50V E.CAP.	C J
	C815	QETB1HM-476	47MF 50V E.CAP.	C J
	C821	QETB1HM-476	47MF 50V E.CAP.	
	C822	QETB1HM-476	47MF 50V E.CAP.	
	C840	QETB1HM-476	47MF 50V E.CAP.	
	C841	QETB1HM-476	47MF 50V E.CAP.	
	C845	QETB1HM-476	47MF 50V E.CAP.	
	C853	QETB1EM-107	100MF 25V AL E.CAP.	
	C854	QETB1EM-107	100MF 25V AL E.CAP.	
	C861	QEZ0223-478	4700MF E.CAP.	C J
	C862	QEZ0223-478	4700MF E.CAP.	C J
	C863	QFN31HJ-104Z	0.1MF 50V MYLAR CAP.	C J
	C864	QCE22HP-103A	0.01MF 500V CER.CAP.	
	C865	QCE22HP-103A	0.01MF 500V CER.CAP.	
	C885	QETB1HM-105	1MF 50V AL E.CAP.	
	C896	QETB1EM-107	100MF 25V AL E.CAP.	
	C903	QETB1HM-226E	22MF 50V E.CAP.	
	C904	QCY31HK-102Z	1000PF 50V CER.CAP.	
	C905	QETB1AM-476	47MF 10V E.CAP.	
	C906	QCF21HP-103A	0.01MF 50V CER.CAP.	
	C909	QETB1CM-226	22MF 16V E.CAP.	
	C925	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C961	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C962	QCBB1HK-331Y	330PF 50V CER.CAP.	
		RESISTORS		
	R501	QRD161J-222	2.2K 1/6W CARBON RES.	
	R502	QRD161J-104	100K 1/6W CARBON RES.	
	R503	QRD161J-202	2K 1/6W CARBON RES.	
	R504	QRD161J-202	2K 1/6W CARBON RES.	
	R505	QRD161J-123	12K 1/6W CARBON RES.	
	R507	QRD161J-104	100K 1/6W CARBON RES.	
	R508	QRD161J-911	910 1/6W CARBON RES.	C J
	R511	QRD14CJ-331SX	330 1/4W UNF.CARBON R	C J
	R512	QRD167J-272	2.7K 1/6W CARBON RES.	C J
	R513	QRD167J-272	2.7K 1/6W CARBON RES.	C J
	R514	QRD167J-272	2.7K 1/6W CARBON RES.	C J
	R515	QRD167J-272	2.7K 1/6W CARBON RES.	C J
⚠	R517	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R518	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R523	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R524	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
	R527	QRZ0195-R22	0.22 1W FUSIBLE RES.	
⚠	R528	QRD125J-330	33 1/2W UNF.CARBON R	
	R531	QRD161J-102	1K 1/6W CARBON RES.	

Electrical Parts List (ENH-300M) * Only for J and C

⚠	Item	Parts Number	Description	Area
	R532	QRD161J-183	18K 1/6W CARBON RES.	
	R533	QRD161J-123	12K 1/6W CARBON RES.	
	R541	QRD161J-102	1K 1/6W CARBON RES.	
	R542	QRD161J-361	360 1/6W CARBON RES.	
	R543	QRD161J-181	180 1/6W CARBON RES.	
	R544	QRD161J-181	180 1/6W CARBON RES.	
	R545	QRD161J-181	180 1/6W CARBON RES.	
	R546	QRD161J-181	180 1/6W CARBON RES.	
⚠	R547	QRG022J-100A	10 2W OXIDE METAL	
	R548	QRD161J-104	100K 1/6W CARBON RES.	
	R549	QRD161J-301	300 1/6W CARBON RES.	
	R562	QRD161J-102	1K 1/6W CARBON RES.	
	R567	QRD161J-361	360 1/6W CARBON RES.	
⚠	R571	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R572	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
	R576	QRD161J-301	300 1/6W CARBON RES.	
	R577	QRZ0195-R22	0.22 1W FUSIBLE RES.	
⚠	R581	QRD125J-330	33 1/2W UNF.CARBON R	
⚠	R582	QRG022J-100A	10 2W OXIDE METAL	
	R585	QRD161J-181	180 1/6W CARBON RES.	
	R586	QRD161J-181	180 1/6W CARBON RES.	
	R587	QRD161J-181	180 1/6W CARBON RES.	
	R588	QRD161J-181	180 1/6W CARBON RES.	
	R591	QRD161J-102	1K 1/6W CARBON RES.	
	R592	QRD161J-183	18K 1/6W CARBON RES.	
	R593	QRD161J-123	12K 1/6W CARBON RES.	
	R594	QRD161J-104	100K 1/6W CARBON RES.	
	R743	QRD161J-471	470 1/6W CARBON RES.	C J
	R744	QRD161J-471	470 1/6W CARBON RES.	C J
	R745	QRD161J-361	360 1/6W CARBON RES.	C J
	R746	QRD161J-361	360 1/6W CARBON RES.	C J
	R747	QRD161J-102	1K 1/6W CARBON RES.	
	R748	QRD161J-102	1K 1/6W CARBON RES.	
⚠	R751	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R752	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R753	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R754	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
	R771	QRZ0195-R22	0.22 1W FUSIBLE RES.	
	R772	QRZ0195-R22	0.22 1W FUSIBLE RES.	
⚠	R773	QRD125J-330	33 1/2W UNF.CARBON R	
⚠	R774	QRD125J-330	33 1/2W UNF.CARBON R	
⚠	R775	QRG022J-100A	10 2W OXIDE METAL	
⚠	R776	QRG022J-100A	10 2W OXIDE METAL	
	R781	QRD161J-181	180 1/6W CARBON RES.	
	R782	QRD161J-181	180 1/6W CARBON RES.	
	R783	QRD161J-181	180 1/6W CARBON RES.	
	R784	QRD161J-181	180 1/6W CARBON RES.	
	R785	QRD161J-181	180 1/6W CARBON RES.	C J
	R786	QRD161J-181	180 1/6W CARBON RES.	C J
	R787	QRD161J-181	180 1/6W CARBON RES.	C J
	R788	QRD161J-181	180 1/6W CARBON RES.	C J
⚠	R800	QRC128K-275EM	2.7M 1/2W COMPOSITION	
⚠	R801	QRD14CJ-220S	22 1/4W UNF.CARBON R	
	R803	QRD14CJ-821SX	820 1/4W CARBON RES.	
⚠	R805	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R808	QRD14CJ-2R7S	2.7 1/4W UNF.CARBON R	C J
⚠	R811	QRD14CJ-100SX	10 1/4W UNF.CARBON R	C J
	R812	QRD14CJ-331SX	330 1/4W UNF.CARBON R	C J
⚠	R821	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R822	QRD14CJ-182SX	1.8K 1/4W UNF.CARBON R	
⚠	R840	QRD14CJ-220S	22 1/4W UNF.CARBON R	
⚠	R841	QRD14CJ-100SX	10 1/4W UNF.CARBON R	C J
⚠	R842	QRD14CJ-182SX	1.8K 1/4W UNF.CARBON R	C J
	R845	QRD14CJ-102SX	1K 1/4W UNF.CARBON R	
⚠	R853	QRG022J-100A	10 2W OXIDE METAL	C J
	R854	QRD12CJ-392SX	3.9K 1/2W UNF.CARBON R	C J
	R861	QRD161J-104	100K 1/6W CARBON RES.	
	R862	QRD161J-104	100K 1/6W CARBON RES.	
	R885	QRD161J-104	100K 1/6W CARBON RES.	
⚠	R891	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R892	QRD14CJ-272S	2.7K 1/4W UNF.CARBON R	
	R901	QRD161J-102	1K 1/6W CARBON RES.	
	R902	QRD161J-102	1K 1/6W CARBON RES.	
	R903	QRD167J-153	15K 1/6W CARBON RES.	
	R904	QRD167J-153	15K 1/6W CARBON RES.	
	R905	QRD161J-123	12K 1/6W CARBON RES.	

⚠	Item	Parts Number	Description	Area
	R906	QRD161J-123	12K 1/6W CARBON RES.	
	R909	QRD161J-104	100K 1/6W CARBON RES.	
	R910	QRD161J-823	82K 1/6W CARBON RES.	
	R911	QRD167J-332	3.3K 1/6W CARBON RES.	
	R912	QRD161J-473	47K 1/6W CARBON RES.	
	R913	QRD161J-103	10K 1/6W CARBON RES.	
	R915	QRD161J-823	82K 1/6W CARBON RES.	
	R916	QRD161J-563	56K 1/6W CARBON RES.	
	R917	QRD161J-683	68K 1/6W CARBON RES.	
	R918	QRD161J-392	3.9K 1/6W CARBON RES.	
	R919	QRD161J-122	1.2K 1/6W CARBON RES.	
	R920	QRD161J-224	220K 1/6W CARBON RES.	
⚠	R921	QRD14CJ-470SX	47 1/4W UNF.CARBON R	
	R925	QRD167J-562	5.6K 1/6W CARBON RES.	
	R926	QRD167J-822	8.2K 1/6W CARBON RES.	
	R927	QRD161J-103	10K 1/6W CARBON RES.	
⚠	R951	QRD14CJ-220S	22 1/4W UNF.CARBON R	
⚠	R961	QRG022J-471A	470 2W OXIDE METAL	
⚠	R962	QRG022J-471A	470 2W OXIDE METAL	
	VR741	QVPA601-102A	1K VARIABLE RES.	
	VR742	QVPA601-102A	1K VARIABLE RES.	
		OTHERS		
		EMW10678-002	PRINTED BOARD	
		QWE881-16RR	VINYL WIRE	
		QWE886-16RR	PIN WIRE	
		SBSG3008CC	TAPPING SCREW	
	J961	QMS6022-V01	MICROPHONE JACK	
	L501	EQL0011-R45J1	INDUCTOR	
	L581	EQL0011-R45J1	INDUCTOR	
	L771	EQL0011-R45J1	INDUCTOR	
	L772	EQL0011-R45J1	INDUCTOR	
	S901	QST4101-E15	PUSH SWITCH	
⚠	T801	ETP1000-41JA	POWER TRASNFORMER	
	CN711	EMV7163-010	CONNECT TERMINAL	
	CN713	EMV7163-005	CONNECTOR	
	CN802	EMV7145-004Z	SOCKET ASSY	
	CN803	EMV7145-004Z	SOCKET ASSY	
	CN851	EMV7163-007	CONNECT TERMINAL	
	EP500	EMZ4002-002Z	EARTH PLATE	
	EP800	E409182-001SM	EARTH TERMINAL	
	EP961	EMZ4002-002Z	EARTH PLATE	
	FC801	EMG7331-003Z	FUSE CLIP	
	FC802	EMG7331-003Z	FUSE CLIP	
	FC810	EMG7331-003Z	FUSE CLIP	
	FC811	EMG7331-003Z	FUSE CLIP	
	FC812	EMG7331-003Z	FUSE CLIP	
	FC813	EMG7331-003Z	FUSE CLIP	
	FW801	EWR3AD-13SS	FLAT WIRE	
	FW901	EWR34D-40SS	FLAT WIRE ASSY	
	FW902	EWR35B-16SST	FLAT WIRE	
	FW961	EWR33D-16SS	CORD	
	HS841	E70306-001	HEAT SINK	
	HS851	E70945-H40B	HEAT SINK	
	RY801	ESK1D12-119J3	RELAY	
	RY901	ESK7D24-213R	RELAY	
	RY951	ESK7D24-213R	RELAY	
	ST901	EMB90YV-401A	SPEAKER TERMINAL	
	ST951	EMB90TV-601G	SPEAKER TERMINAL	
	TA801	EMZ4001-002Z	TAB	
	TA802	EMZ4001-002Z	TAB	
	TH540	ERT-D2WHL202S	NEGATIVE THERMISTOR	
	TH568	ERT-D2WHL202S	NEGATIVE THERMISTOR	
	TH749	ERT-D2WHL202S	NEGATIVE THERMISTOR	
	TH750	ERT-D2WHL202S	NEGATIVE THERMISTOR	
	TP001	QMV5005-004K	PLUG ASSY	

Electrical Parts List (ENH-301M) * Only for U, US and UT

⚠	Item	Parts Number	Description	Area
		I.C.S		
	IC901	TA7317P	I.C(MONO-ANALOG)	
		DIODES		
	D503	1SS133	SI.DIODE	
	D511	1SS133	SI.DIODE	
	D512	1SS133	SI.DIODE	
	D531	1SS133	SI.DIODE	
	D585	1SS133	SI.DIODE	
	D586	1SS133	SI.DIODE	
	D591	1SS133	SI.DIODE	
	D781	1SS133	SI.DIODE	
	D782	1SS133	SI.DIODE	
	D783	1SS133	SI.DIODE	
	D784	1SS133	SI.DIODE	
	D801	1SR139-200	SI.DIODE	
	D802	1SR139-200	SI.DIODE	
	D803	1SR139-200	SI.DIODE	
	D804	1SR139-200	SI.DIODE	
	D805	MTZ12JC	ZENER DIODE	
	D806	1SS133	SI.DIODE	
	D807	MTZ6.8JC	ZENER DIODE	
	D808	1SS133	SI.DIODE	
⚠	D811	10E2-FD	DIODE	
⚠	D812	10E2-FD	DIODE	
	D815	MTZ10JC	ZENER DIODE	
	D822	MTZ13JC	ZENER DIODE	
	D840	MTZ10JC	ZENER DIODE	
	D841	MTZ16JC	ZENER DIODE	
	D851	MTZ13JC	ZENER DIODE	
⚠	D861	30DF2SFC	SI.DIODE	
⚠	D862	30DF2SFC	SI.DIODE	
⚠	D863	30DF2SFC	SI.DIODE	
⚠	D864	30DF2SFC	SI.DIODE	
	D885	MTZ6.2JC	ZENER DIODE	
	D891	MTZ6.2JC	ZENER DIODE	
	D901	1SS133	SI.DIODE	
	D902	1SS133	SI.DIODE	
	D921	1SS133	SI.DIODE	
	D925	1SS133	SI.DIODE	
	D951	1SS133	SI.DIODE	
	D952	1SS133	SI.DIODE	
		TRANSISTORS		
	Q501	2SC2240(BL)	SI.TRANSISTOR	
	Q502	2SC2240(BL)	SI.TRANSISTOR	
	Q503	2SA1038(R,S)	SI.TRANSISTOR	
	Q509	2SC2389(S,E)	SI.TRANSISTOR	
	Q511	2SC2389(S,E)	SI.TRANSISTOR	
	Q512	2SA1038(R,S)	SI.TRANSISTOR	
	Q540	2SD636	SI.TRANSISTOR	
	Q568	2SD636	SI.TRANSISTOR	
	Q585	2SC2389(S,E)	SI.TRANSISTOR	
	Q586	2SA1038(R,S)	SI.TRANSISTOR	
	Q591	2SC2389(S,E)	SI.TRANSISTOR	
	Q741	2SD636	SI.TRANSISTOR	
	Q742	2SD636	SI.TRANSISTOR	
	Q781	2SC2389(S,E)	SI.TRANSISTOR	
	Q782	2SC2389(S,E)	SI.TRANSISTOR	
	Q783	2SA1038(R,S)	SI.TRANSISTOR	
	Q784	2SA1038(R,S)	SI.TRANSISTOR	
	Q802	2SC2235(O,Y)	SI.TRANSISTOR	
	Q803	DTC114ES	DIGITAL TRANSISTOR	
	Q805	2SD1266	SI.TRANSISTOR	
	Q811	2SC2235(O,Y)	SI.TRANSISTOR	
	Q821	2SB1187(F,G)	SI.TRANSISTOR	
	Q841	2SB1187(F,G)	SI.TRANSISTOR	
	Q851	2SD2061(F,G)	SI.TRANSISTOR	
	Q885	2SC2240(GR,BL)	SI.TRANSISTOR	
	Q891	2SD2061(F,G)	SI.TRANSISTOR	
	Q901	2SC2389(S,E)	SI.TRANSISTOR	
	Q902	2SC2389(S,E)	SI.TRANSISTOR	
	Q903	2SA1038(R,S)	SI.TRANSISTOR	
	Q951	DTC123YS	SI.TRANSISTOR	
		CAPACITORS		
	C501	QETB1HM-106	10MF 50V E.CAP.	
	C502	QCS21HJ-271A	270PF 50V CER.CAP.	
	C503	QCS21HJ-101A	100PF 50V CER.CAP.	
	C507	QCS21HJ-100	10PF 50V CER.CAP.	
	C508	QETB1CM-476	47MF 16V AL E.CAP.	
	C511	QETB1HM-225	2.2MF 50V AL E.CAP.	

⚠	Item	Parts Number	Description	Area
	C512	QFLB1HJ-103	0.01MF 50V MYLAR CAP.	
	C513	QCS22HJ-330	33PF 500V CER.CAP.	
	C514	QETB1HM-476	47MF 50V E.CAP.	
	C517	QETB2AM-106	10MF 100V AL E.CAP.	
	C521	QCS22HJ-470A	47PF 500V CER.CAP.	
	C522	QCS22HJ-470A	47PF 500V CER.CAP.	
	C543	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	
	C544	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	
	C571	QCS22HJ-470A	47PF 500V CER.CAP.	
	C572	QCS22HJ-470A	47PF 500V CER.CAP.	
	C581	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	
	C582	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	
	C751	QCS22HJ-470A	47PF 500V CER.CAP.	
	C752	QCS22HJ-470A	47PF 500V CER.CAP.	
	C753	QCS22HJ-470A	47PF 500V CER.CAP.	
	C754	QCS22HJ-470A	47PF 500V CER.CAP.	
	C771	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	
	C772	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	
	C773	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	
	C774	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	
	C801	QFN82AK-472	4700PF 100V METAL.MYLAR	
	C802	QETB1JM-227	220MF 63V AL E.CAP.	
	C803	QETB1CM-476	47MF 16V AL E.CAP.	
⚠	C804	QCZ9019-472	4700PF C.CAP.	
	C811	QETB1VM-228N	2200MF 35V E.CAP.	
	C812	QFN82AJ-104	0.1MF 100V MYLAR CAP.	
	C813	QFN82AJ-104	0.1MF 100V MYLAR CAP.	
	C814	QETB1HM-476	47MF 50V E.CAP.	
	C815	QETB1HM-476	47MF 50V E.CAP.	
	C821	QETB1HM-476	47MF 50V E.CAP.	
	C822	QETB1HM-476	47MF 50V E.CAP.	
	C840	QETB1HM-476	47MF 50V E.CAP.	
	C841	QETB1HM-476	47MF 50V E.CAP.	
	C845	QETB1HM-476	47MF 50V E.CAP.	
	C853	QETB1EM-107	100MF 25V AL E.CAP.	
	C854	QETB1EM-107	100MF 25V AL E.CAP.	
	C861	QEZ0225-478	4700MF E.CAP.	
	C862	QEZ0225-478	4700MF E.CAP.	
	C863	QFN82CK-104	0.1MF 160V METAL.MYLAR	
	C864	QFN82CK-104	0.1MF 160V METAL.MYLAR	
	C865	QFN82CK-104	0.1MF 160V METAL.MYLAR	
	C869	QFN82AJ-104	0.1MF 100V MYLAR CAP.	
	C885	QETB1HM-105	1MF 50V AL E.CAP.	
	C896	QETB1EM-107	100MF 25V AL E.CAP.	
	C903	QETB1HM-226E	22MF 50V E.CAP.	
	C904	QCY31HK-102Z	1000PF 50V CER.CAP.	
	C905	QETB1AM-476	47MF 10V E.CAP.	
	C906	QCF21HP-103A	0.01MF 50V CER.CAP.	
	C909	QETB1CM-226	22MF 16V E.CAP.	
	C925	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C961	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C962	QCBB1HK-331Y	330PF 50V CER.CAP.	
		RESISTORS		
	R001	QRD161J-103	10K 1/6W CARBON RES.	
	R002	QRD161J-103	10K 1/6W CARBON RES.	
	R003	QRD161J-103	10K 1/6W CARBON RES.	
	R501	QRD161J-222	2.2K 1/6W CARBON RES.	
	R502	QRD161J-104	100K 1/6W CARBON RES.	
	R503	QRD161J-202	2K 1/6W CARBON RES.	
	R504	QRD161J-202	2K 1/6W CARBON RES.	
	R505	QRD161J-123	12K 1/6W CARBON RES.	
	R507	QRD161J-104	100K 1/6W CARBON RES.	
	R508	QRD167J-751	750 1/6W CARBON RES.	
	R511	QRD14CJ-301SX	300 1/4W UNF.CARBON R	
	R512	QRD167J-272	2.7K 1/6W CARBON RES.	
	R513	QRD167J-272	2.7K 1/6W CARBON RES.	
	R514	QRD167J-272	2.7K 1/6W CARBON RES.	
	R515	QRD167J-272	2.7K 1/6W CARBON RES.	
⚠	R517	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R518	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R523	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R524	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
	R527	QRZ0195-R22	0.22 1W FUSIBLE RES.	
⚠	R528	QRD125J-330	33 1/2W UNF.CARBON R	
	R531	QRD161J-102	1K 1/6W CARBON RES.	
	R532	QRD161J-183	18K 1/6W CARBON RES.	
	R533	QRD161J-123	12K 1/6W CARBON RES.	
	R541	QRD161J-102	1K 1/6W CARBON RES.	
	R542	QRD161J-361	360 1/6W CARBON RES.	

RX-3THBK

Electrical Parts List (ENH-301M) * Only for U, US and UT

⚠	Item	Parts Number	Description	Area
	R543	QRD161J-181	180 1/6W CARBON RES.	
	R544	QRD161J-181	180 1/6W CARBON RES.	
	R545	QRD161J-181	180 1/6W CARBON RES.	
	R546	QRD161J-181	180 1/6W CARBON RES.	
⚠	R547	QRG022J-100A	10 2W OXIDE METAL	
	R548	QRD161J-104	100K 1/6W CARBON RES.	
	R549	QRD161J-301	300 1/6W CARBON RES.	
	R562	QRD161J-102	1K 1/6W CARBON RES.	
	R567	QRD161J-361	360 1/6W CARBON RES.	
⚠	R571	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R572	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
	R576	QRD161J-301	300 1/6W CARBON RES.	
	R577	QRZ0195-R22	0.22 1W FUSIBLE RES.	
⚠	R581	QRD125J-330	33 1/2W UNF.CARBON R	
⚠	R582	QRG022J-100A	10 2W OXIDE METAL	
	R585	QRD161J-181	180 1/6W CARBON RES.	
	R586	QRD161J-181	180 1/6W CARBON RES.	
	R587	QRD161J-181	180 1/6W CARBON RES.	
	R588	QRD161J-181	180 1/6W CARBON RES.	
	R591	QRD161J-102	1K 1/6W CARBON RES.	
	R592	QRD161J-183	18K 1/6W CARBON RES.	
	R593	QRD161J-123	12K 1/6W CARBON RES.	
	R594	QRD161J-104	100K 1/6W CARBON RES.	
	R743	QRD161J-181	180 1/6W CARBON RES.	
	R744	QRD161J-181	180 1/6W CARBON RES.	
	R745	QRD161J-361	360 1/6W CARBON RES.	
	R746	QRD161J-361	360 1/6W CARBON RES.	
	R747	QRD161J-102	1K 1/6W CARBON RES.	
	R748	QRD161J-102	1K 1/6W CARBON RES.	
⚠	R751	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R752	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R753	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R754	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
	R771	QRZ0195-R22	0.22 1W FUSIBLE RES.	
	R772	QRZ0195-R22	0.22 1W FUSIBLE RES.	
⚠	R773	QRD125J-330	33 1/2W UNF.CARBON R	
⚠	R774	QRD125J-330	33 1/2W UNF.CARBON R	
⚠	R775	QRG022J-100A	10 2W OXIDE METAL	
⚠	R776	QRG022J-100A	10 2W OXIDE METAL	
	R781	QRD161J-181	180 1/6W CARBON RES.	
	R782	QRD161J-181	180 1/6W CARBON RES.	
	R783	QRD161J-181	180 1/6W CARBON RES.	
	R784	QRD161J-181	180 1/6W CARBON RES.	
	R785	QRD161J-181	180 1/6W CARBON RES.	
	R786	QRD161J-181	180 1/6W CARBON RES.	
	R787	QRD161J-181	180 1/6W CARBON RES.	
	R788	QRD161J-181	180 1/6W CARBON RES.	
⚠	R801	QRZ0076-3R3	3.3 1/4W FUSIBLE RES.	
	R803	QRD14CJ-821SX	820 1/4W CARBON RES.	
⚠	R806	QRD145J-153S	15K 1/4W UNF.CARBON R	
⚠	R807	QRG012J-332A	3.3K 1W OXIDE METAL	
⚠	R808	QRD14CJ-3R3S	3.3 1/4W UNF.CARBON R	
⚠	R811	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
	R812	QRD14CJ-331SX	330 1/4W UNF.CARBON R	
⚠	R821	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R822	QRD14CJ-182SX	1.8K 1/4W UNF.CARBON R	
⚠	R840	QRD14CJ-220S	22 1/4W UNF.CARBON R	
⚠	R841	QRZ0077-100	10 1/4W FUSIBLE RES.	
⚠	R842	QRD143J-472S	4.7K 1/4W CARBON RES.	
	R845	QRD14CJ-102SX	1K 1/4W UNF.CARBON R	
	R853	QRD12CJ-100SX	10 1/2W UNF.CARBON R	
⚠	R854	QRD12CJ-562S	5.6K 1/2W UNF.CARBON R	
	R861	QRD161J-104	100K 1/6W CARBON RES.	
	R862	QRD161J-104	100K 1/6W CARBON RES.	
	R885	QRD161J-104	100K 1/6W CARBON RES.	
⚠	R891	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R892	QRD14CJ-272S	2.7K 1/4W UNF.CARBON R	
	R901	QRD161J-102	1K 1/6W CARBON RES.	
	R902	QRD161J-102	1K 1/6W CARBON RES.	
	R903	QRD167J-153	15K 1/6W CARBON RES.	
	R904	QRD167J-153	15K 1/6W CARBON RES.	
	R905	QRD161J-123	12K 1/6W CARBON RES.	
	R906	QRD161J-123	12K 1/6W CARBON RES.	
	R909	QRD161J-104	100K 1/6W CARBON RES.	
	R910	QRD161J-823	82K 1/6W CARBON RES.	
	R911	QRD167J-332	3.3K 1/6W CARBON RES.	
	R912	QRD161J-473	47K 1/6W CARBON RES.	
	R913	QRD161J-103	10K 1/6W CARBON RES.	
	R915	QRD161J-823	82K 1/6W CARBON RES.	

⚠	Item	Parts Number	Description	Area
	R916	QRD161J-563	56K 1/6W CARBON RES.	
	R917	QRD161J-683	68K 1/6W CARBON RES.	
	R918	QRD161J-392	3.9K 1/6W CARBON RES.	
	R919	QRD161J-122	1.2K 1/6W CARBON RES.	
	R920	QRD161J-224	220K 1/6W CARBON RES.	
⚠	R921	QRD14CJ-470SX	47 1/4W UNF.CARBON R	
	R925	QRD167J-562	5.6K 1/6W CARBON RES.	
	R926	QRD167J-822	8.2K 1/6W CARBON RES.	
	R927	QRD161J-103	10K 1/6W CARBON RES.	
⚠	R951	QRD14CJ-220S	22 1/4W UNF.CARBON R	
⚠	R961	QRG022J-471A	470 2W OXIDE METAL	
⚠	R962	QRG022J-471A	470 2W OXIDE METAL	
	VR741	QVPA601-102A	1K VARIABLE RES.	
	VR742	QVPA601-102A	1K VARIABLE RES.	
		OTHERS		
		EMW10678-102	PRINTED BOARD	
		QWE880-15RR	VINYL WIRE	
		QWE881-16RR	VINYL WIRE	
		QWE882-15RR	VINYL WIRE	
		QWE883-15RR	VINYL WIRE	
		QWE884-15RR	VINYL WIRE	
		QWE886-16RR	PIN WIRE	
		QWE888-15RR	VINYL WIRE	
		QWE889-15RR	VINYL WIRE	
		SBSG3008CC	TAPPING SCREW	
	J961	QWS6022-V01	MICROPHONE JACK	
	L501	EQL0011-R45J1	INDUCTOR	
	L581	EQL0011-R45J1	INDUCTOR	
	L771	EQL0011-R45J1	INDUCTOR	
	L772	EQL0011-R45J1	INDUCTOR	
	S901	QST4101-E15	PUSH SWITCH	
⚠	T801	ETP1000-41ZB	POWER TRASNFORMER	
	CN711	EMV7163-010	CONNECT TERMINAL	
	CN713	EMV7163-005	CONNECTOR	
	CN802	EMV7145-004Z	SOCKET ASSY	
	CN803	EMV7145-004Z	SOCKET ASSY	
	CN851	EMV7163-007	CONNECT TERMINAL	
	EP500	EMZ4002-002Z	EARTH PLATE	
	EP800	E409182-001SM	EARTH TERMINAL	
	EP961	EMZ4002-002Z	EARTH PLATE	
	FC801	EMG7331-003Z	FUSE CLIP	
	FC802	EMG7331-003Z	FUSE CLIP	
	FC803	EMG7331-003Z	FUSE CLIP	
	FC804	EMG7331-003Z	FUSE CLIP	
	FC805	EMG7331-003Z	FUSE CLIP	
	FC806	EMG7331-003Z	FUSE CLIP	
	FC810	EMG7331-003Z	FUSE CLIP	
	FC811	EMG7331-003Z	FUSE CLIP	
	FC812	EMG7331-003Z	FUSE CLIP	
	FC813	EMG7331-003Z	FUSE CLIP	
	FW801	EWR3AD-13SS	FLAT WIRE	
	FW901	EWR34D-40SS	FLAT WIRE ASSY	
	FW902	EWR35B-16SST	FLAT WIRE	
	FW961	EWR33D-16SS	CORD	
	HS805	E70945-H40B	HEAT SINK	
	HS841	E70306-001	HEAT SINK	
	HS851	E70945-H40B	HEAT SINK	
	RY801	ESK1D12-119J3	RELAY	
	RY901	ESK7D24-213R	RELAY	
	RY951	ESK7D24-213R	RELAY	
	ST901	EMB90YV-401A	SPEAKER TERMINAL	
	ST951	EMB90YV-601G	SPEAKER TERMINAL	
	TA801	EMZ4001-002Z	TAB	
	TA802	EMZ4001-002Z	TAB	
	TH540	ERT-D2WHL202S	NEGATIVE THERMISTOR	
	TH568	ERT-D2WHL202S	NEGATIVE THERMISTOR	
	TH749	ERT-D2WHL202S	NEGATIVE THERMISTOR	
	TH750	ERT-D2WHL202S	NEGATIVE THERMISTOR	
	TP001	QMV5005-004K	PLUG ASSY	
	VS001	QSR8001-E01U	ROTARY SWITCH	

Electrical Parts List (ENC-135M)

⚠	Item	Parts Number	Description	Area
		I.C.S		
	IC201	TC9212P	I.C(DIGI-MOS)	
	IC202	TC9212P	I.C(DIGI-MOS)	
	IC203	BA15218N	I.C(MONO-ANALOG)	
	IC204	BA15218	I.C(MONO-ANALOG)	
	IC251	M5243P12	I.C(MONO-ANALOG)	
	IC252	TC9163AN	I.C(DIGI-MOS)	
	IC321	TC9164AN	I.C(DIGI-MOS)	
	IC341	BA15218	I.C(MONO-ANALOG)	
	IC361	BA15218	I.C(MONO-ANALOG)	
	IC601	LA2786	I.C(MONO-ANALOG)	
	IC641	LV1016	I.C(M)	
	IC671	NJM2246D	I.C(MONO-ANALOG)	
		DIODES		
	D251	MTZ6.8JC	ZENER DIODE	
	D252	MTZ6.8JC	ZENER DIODE	
	D371	MTZ6.2JC	ZENER DIODE	C J
	D372	MTZ6.2JC	ZENER DIODE	C J
		TRANSISTORS		
	Q221	2SD2144S(VW)	SI.TRANSISTOR	
	Q222	2SD2144S(VW)	SI.TRANSISTOR	
	Q223	2SD2144S(VW)	SI.TRANSISTOR	
	Q224	2SD2144S(VW)	SI.TRANSISTOR	
	Q225	DTA144ES	DIGITAL TRANSISTOR	
	Q671	2SA933S(RS)	SI.TRANSISTOR	
	Q672	2SC458(C.D)	SI.TRANSISTOR	
	Q673	DTC143ES	DIGITAL TRANSISTOR	
	Q674	2SA933S(RS)	SI.TRANSISTOR	
	Q675	2SC458(C.D)	SI.TRANSISTOR	
		CAPACITORS		
	C201	QETB1HM-475E	4.7MF 50V E.CAP.	
	C202	QETB1HM-475E	4.7MF 50V E.CAP.	
	C203	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C204	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C205	QCBB1HK-561Y	560PF 50V CER.CAP.	
	C206	QCBB1HK-561Y	560PF 50V CER.CAP.	
	C207	QFN81HK-154	0.15MF 50V METAL.MYLAR	
	C208	QFN81HK-154	0.15MF 50V METAL.MYLAR	
	C209	QETB1HM-475E	4.7MF 50V E.CAP.	
	C210	QETB1HM-475E	4.7MF 50V E.CAP.	
	C211	QETB1HM-475E	4.7MF 50V E.CAP.	
	C212	QETB1HM-475E	4.7MF 50V E.CAP.	
	C213	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C214	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C215	QETB1HM-475E	4.7MF 50V E.CAP.	
	C216	QETB1HM-475E	4.7MF 50V E.CAP.	
	C225	QETB1HM-475E	4.7MF 50V E.CAP.	
	C251	QETB1HM-475E	4.7MF 50V E.CAP.	
	C252	QETB1HM-475E	4.7MF 50V E.CAP.	
	C253	QCBB1HK-101Y	100PF 50V CER.CAP.	
	C254	QCBB1HK-101Y	100PF 50V CER.CAP.	
	C255	QETB1EM-476	47MF 25V AL E.CAP.	
	C256	QETB1EM-476	47MF 25V AL E.CAP.	
	C257	QETB1EM-476	47MF 25V AL E.CAP.	
	C258	QETB1EM-476	47MF 25V AL E.CAP.	
	C259	QCSB1HJ-100Y	10PF 50V CER.CAP.	
	C260	QCSB1HJ-100Y	10PF 50V CER.CAP.	
	C261	QCSB1HJ-100Y	10PF 50V CER.CAP.	
	C262	QCSB1HJ-100Y	10PF 50V CER.CAP.	
	C265	QETB1EM-226N	22MF 25V E.CAP.	
	C266	QETB1EM-226N	22MF 25V E.CAP.	
	C269	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C270	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C271	QFLB1HJ-272	2700PF 50V MYLAR CAP.	
	C272	QFLB1HJ-272	2700PF 50V MYLAR CAP.	
	C273	QCBB1HK-471Y	470PF 50V CER.CAP.	
	C274	QCBB1HK-471Y	470PF 50V CER.CAP.	
	C275	QFV81HJ-473	0.047MF 50V THIN FILM CA	
	C276	QFV81HJ-473	0.047MF 50V THIN FILM CA	
	C277	QFLB1HJ-822	8200PF 50V MYLAR CAP.	
	C278	QFLB1HJ-822	8200PF 50V MYLAR CAP.	
	C279	QER51HM-684	0.68MF 50V AL E.CAP.	
	C280	QER51HM-684	0.68MF 50V AL E.CAP.	
	C281	QFV81HJ-104	0.1MF 50V THIN FILM CA	
	C282	QFV81HJ-104	0.1MF 50V THIN FILM CA	
	C283	QCSB1HJ-470	47PF 50V CER.CAP.	
	C284	QCSB1HJ-470	47PF 50V CER.CAP.	
	C287	QCBB1HK-561Y	560PF 50V CER.CAP.	
	C291	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C292	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C323	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C324	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C325	QCBB1HK-221Y	220PF 50V CER.CAP.	
	C341	QETB1HM-106	10MF 50V E.CAP.	
	C342	QETB1HM-106	10MF 50V E.CAP.	
	C361	QETB1HM-475E	4.7MF 50V E.CAP.	
	C362	QETB1HM-475E	4.7MF 50V E.CAP.	
	C371	QCBB1HK-221Y	220PF 50V CER.CAP.	
	C381	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C382	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C385	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C386	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C387	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C388	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C389	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C390	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C393	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C394	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C395	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C396	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C397	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C398	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C601	QETB1HM-105	1MF 50V AL E.CAP.	
	C602	QETB1HM-105	1MF 50V AL E.CAP.	
	C603	QFLB1HJ-104	0.1MF 50V MYLAR CAP.	
	C604	QFLB1HJ-104	0.1MF 50V MYLAR CAP.	
	C605	QFLB1HJ-104	0.1MF 50V MYLAR CAP.	
	C606	QFLB1HJ-104	0.1MF 50V MYLAR CAP.	
	C607	QETB1HM-474	0.47MF 50V E.CAP.	
	C608	QETB1HM-474	0.47MF 50V E.CAP.	
	C609	QETB1HM-475E	4.7MF 50V E.CAP.	
	C610	QETB1HM-475E	4.7MF 50V E.CAP.	
	C611	QETB1HM-474	0.47MF 50V E.CAP.	
	C612	QETB1HM-474	0.47MF 50V E.CAP.	
	C613	QETB1HM-475E	4.7MF 50V E.CAP.	
	C614	QETB1HM-475E	4.7MF 50V E.CAP.	
	C615	QFV81HJ-154	0.15MF 50V THIN FILM CA	
	C616	QFV81HJ-154	0.15MF 50V THIN FILM CA	
	C617	QETB1HM-335	3.3MF 50V AL E.CAP.	
	C618	QETB1HM-335	3.3MF 50V AL E.CAP.	
	C619	QFV81HJ-154	0.15MF 50V THIN FILM CA	
	C620	QFV81HJ-154	0.15MF 50V THIN FILM CA	
	C621	QFN81HJ-223	0.022MF 50V METAL.MYLAR	
	C622	QFN31HJ-473ZN	0.047MF 50V MYLAR CAP.	
	C623	QETB1EM-227	220MF 25V AL E.CAP.	
	C624	QETB1EM-106	10MF 25V AL E.CAP.	
	C625	QETB1EM-106	10MF 25V AL E.CAP.	
	C626	QETB1EM-106	10MF 25V AL E.CAP.	
	C627	QETB1EM-106	10MF 25V AL E.CAP.	
	C628	QETB1EM-227	220MF 25V AL E.CAP.	
	C631	QETB1EM-476	47MF 25V AL E.CAP.	
	C632	QFV71HJ-474ZM	0.47MF 50V THIN FILM CA	
	C633	QCBB1HK-681Y	680PF 50V CER.CAP.	
	C634	QETB1EM-227	220MF 25V AL E.CAP.	
	C641	QETB1HM-474	0.47MF 50V E.CAP.	
	C642	QETB1EM-227	220MF 25V AL E.CAP.	
	C643	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C645	QFN81HJ-823	0.082MF 50V METAL.MYLAR	
	C646	QFN31HJ-332Z	3300PF 50V MYLAR CAP.	
	C647	QFN81HJ-823	0.082MF 50V METAL.MYLAR	
	C648	QETB1HM-474	0.47MF 50V E.CAP.	
	C650	QETB1EM-227	220MF 25V AL E.CAP.	
	C651	QCSB1HJ-330Y	33PF 50V CER.CAP.	
	C652	QCSB1HJ-330Y	33PF 50V CER.CAP.	
	C653	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C671	QETB1CM-107	100MF 16V AL E.CAP.	
	C672	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C683	QETBOJM-108N	1000MF 6.3V E.CAP.	
	C684	QETB1HM-475E	4.7MF 50V E.CAP.	
	C685	QETB1HM-475E	4.7MF 50V E.CAP.	
	C686	QETBOJM-108N	1000MF 6.3V E.CAP.	
		RESISTORS		

Electrical Parts List (ENC-135M)

⚠	Item	Parts Number	Description		Area
	R201	QRD161J-104	100K	1/6W CARBON RES.	
	R202	QRD161J-104	100K	1/6W CARBON RES.	
	R203	QRD161J-104	100K	1/6W CARBON RES.	
	R204	QRD161J-104	100K	1/6W CARBON RES.	
	R205	QRD161J-393	39K	1/6W CARBON RES.	
	R206	QRD161J-393	39K	1/6W CARBON RES.	
	R207	QRD161J-224	220K	1/6W CARBON RES.	
	R208	QRD161J-224	220K	1/6W CARBON RES.	
	R209	QRD161J-102	1K	1/6W CARBON RES.	
	R210	QRD161J-102	1K	1/6W CARBON RES.	
	R211	QRD161J-104	100K	1/6W CARBON RES.	
	R212	QRD161J-104	100K	1/6W CARBON RES.	
	R213	QRD161J-104	100K	1/6W CARBON RES.	
	R214	QRD161J-104	100K	1/6W CARBON RES.	
	R215	QRD161J-102	1K	1/6W CARBON RES.	
	R216	QRD161J-102	1K	1/6W CARBON RES.	
	R217	QRD161J-102	1K	1/6W CARBON RES.	
	R218	QRD161J-102	1K	1/6W CARBON RES.	
	R221	QRD161J-103	10K	1/6W CARBON RES.	
	R222	QRD161J-103	10K	1/6W CARBON RES.	
	R223	QRD161J-103	10K	1/6W CARBON RES.	
	R224	QRD161J-103	10K	1/6W CARBON RES.	
	R225	QRD161J-102	1K	1/6W CARBON RES.	
	R241	QRD161J-271	270	1/6W CARBON RES.	
	R242	QRD161J-271	270	1/6W CARBON RES.	
	R243	QRD161J-271	270	1/6W CARBON RES.	
	R244	QRD161J-271	270	1/6W CARBON RES.	
⚠	R245	QRD14CJ-680SX	68	1/4W UNF.CARBON R	C J
⚠		QRZ0077-680	68	1/4W FUSIBLE RES.	U US UT
⚠	R246	QRD14CJ-680SX	68	1/4W UNF.CARBON R	C J
⚠		QRZ0077-680	68	1/4W FUSIBLE RES.	U US UT
	R247	QRD161J-271	270	1/6W CARBON RES.	
	R248	QRD161J-271	270	1/6W CARBON RES.	
⚠	R249	QRD14CJ-680SX	68	1/4W UNF.CARBON R	C J
⚠		QRZ0077-680	68	1/4W FUSIBLE RES.	U US UT
⚠	R250	QRD14CJ-680SX	68	1/4W UNF.CARBON R	C J
⚠		QRZ0077-680	68	1/4W FUSIBLE RES.	U US UT
	R253	QRD161J-104	100K	1/6W CARBON RES.	
	R254	QRD161J-104	100K	1/6W CARBON RES.	
	R255	QRD161J-393	39K	1/6W CARBON RES.	
	R256	QRD161J-393	39K	1/6W CARBON RES.	
	R257	QRD161J-103	10K	1/6W CARBON RES.	
	R258	QRD161J-103	10K	1/6W CARBON RES.	
	R259	QRD161J-103	10K	1/6W CARBON RES.	
	R260	QRD161J-103	10K	1/6W CARBON RES.	
	R261	QRD161J-303Y	30K	1/6W CARBON RES.	
	R262	QRD161J-303Y	30K	1/6W CARBON RES.	
	R263	QRD161J-123	12K	1/6W CARBON RES.	
	R264	QRD161J-123	12K	1/6W CARBON RES.	
	R265	QRD161J-472	4.7K	1/6W CARBON RES.	
	R266	QRD161J-472	4.7K	1/6W CARBON RES.	
	R267	QRD161J-183	18K	1/6W CARBON RES.	
	R268	QRD161J-183	18K	1/6W CARBON RES.	
	R269	QRD161J-912	9.1K	1/6W CARBON RES.	
	R270	QRD161J-912	9.1K	1/6W CARBON RES.	
	R271	QRD161J-243	24K	1/6W CARBON RES.	
	R272	QRD161J-243	24K	1/6W CARBON RES.	
	R273	QRD161J-103	10K	1/6W CARBON RES.	
	R274	QRD161J-103	10K	1/6W CARBON RES.	
	R275	QRD161J-333	33K	1/6W CARBON RES.	
	R276	QRD161J-333	33K	1/6W CARBON RES.	
	R279	QRD161J-681	680	1/6W CARBON RES.	
	R280	QRD161J-681	680	1/6W CARBON RES.	
	R325	QRD161J-102	1K	1/6W CARBON RES.	
	R341	QRD161J-104	100K	1/6W CARBON RES.	
	R342	QRD161J-104	100K	1/6W CARBON RES.	
	R343	QRD161J-104	100K	1/6W CARBON RES.	
	R344	QRD161J-104	100K	1/6W CARBON RES.	
	R361	QRD161J-104	100K	1/6W CARBON RES.	
	R362	QRD161J-104	100K	1/6W CARBON RES.	
	R363	QRD161J-103	10K	1/6W CARBON RES.	
	R364	QRD161J-103	10K	1/6W CARBON RES.	
	R365	QRD161J-472	4.7K	1/6W CARBON RES.	
	R366	QRD161J-472	4.7K	1/6W CARBON RES.	
	R371	QRD161J-471	470	1/6W CARBON RES.	
	R372	QRD161J-221	220	1/6W CARBON RES.	

⚠	Item	Parts Number	Description		Area
	R373	QRD161J-221	220	1/6W CARBON RES.	C J
	R374	QRD161J-221	220	1/6W CARBON RES.	C J
	R375	QRD161J-221	220	1/6W CARBON RES.	C J
	R381	QRD161J-471	470	1/6W CARBON RES.	
	R382	QRD161J-471	470	1/6W CARBON RES.	
	R385	QRD161J-471	470	1/6W CARBON RES.	
	R386	QRD161J-471	470	1/6W CARBON RES.	
	R387	QRD161J-471	470	1/6W CARBON RES.	
	R388	QRD161J-471	470	1/6W CARBON RES.	
	R389	QRD161J-471	470	1/6W CARBON RES.	
	R390	QRD161J-471	470	1/6W CARBON RES.	
	R393	QRD161J-471	470	1/6W CARBON RES.	
	R394	QRD161J-471	470	1/6W CARBON RES.	
	R395	QRD161J-471	470	1/6W CARBON RES.	
	R396	QRD161J-471	470	1/6W CARBON RES.	
	R397	QRD161J-471	470	1/6W CARBON RES.	
	R398	QRD161J-471	470	1/6W CARBON RES.	
	R641	QRD161J-102	1K	1/6W CARBON RES.	
	R642	QRD161J-102	1K	1/6W CARBON RES.	
	R643	QRD161J-163	16K	1/6W CARBON RES.	
	R644	QRD161J-393	39K	1/6W CARBON RES.	
	R651	QRD161J-105	1M	1/6W CARBON RES.	
	R671	QRD167J-151	150	1/6W CARBON RES.	
	R672	QRD167J-152	1.5K	1/6W CARBON RES.	
	R673	QRD161J-271	270	1/6W CARBON RES.	
	R674	QRD167J-151	150	1/6W CARBON RES.	
	R675	QRD167J-152	1.5K	1/6W CARBON RES.	
	R676	QRD161J-271	270	1/6W CARBON RES.	
	R685	QRD161J-750	75	1/6W CARBON RES.	
	R686	QRD161J-473	47K	1/6W CARBON RES.	
	R687	QRD161J-331	330	1/6W CARBON RES.	
	R688	QRD161J-750	75	1/6W CARBON RES.	
	R689	QRD161J-331	330	1/6W CARBON RES.	
	R690	QRD161J-750	75	1/6W CARBON RES.	
	R691	QRD161J-750	75	1/6W CARBON RES.	
	R692	QRD161J-473	47K	1/6W CARBON RES.	
		OTHERS			
		EMW10680-002	PRINTED BOARD		
	J301	EMN00TV-423AJ2	PIN JACK		
	J302	EMN00TV-423AJ2	PIN JACK		
	J304	QNN0027-001	PIN JACK		
	J371	QMS3501-020	PIN JACK		
	J372	QMS3L10-0A0	MICROPHONE JACK		C J
	J373	QMS3L10-0A0	MICROPHONE JACK		C J
	J374	QMS3L10-0A0	MICROPHONE JACK		C J
	J601	EMN00YV-217A	PIN JACK		
	J602	EMN00TV-116A	PIN JACK		U US UT
		EMN01TV-102A	PIN JACK		C J
	J603	EMN00TV-116A	PIN JACK		
	L671	EQL4004-R22	INDUCTOR		U US UT
	X641	ECXP8R0-001Z	CRYSTAL		
	CN101	EMV7163-012	CONNECT TERMINAL		
	CN302	EMV7163-004	CONNECT TERMINAL		
	CN304	VMC0163-021	CONNECT TERMINAL		
	CN306	EMV7163-012	CONNECT TERMINAL		
	CN307	EMV7163-005	CONNECTOR		
	CN308	EMV7163-010	CONNECT TERMINAL		
	CN312	EMV5163-004R	CONNECT TERMINAL		
	CN316	EMV5163-012R	CONNECT TERMINAL		
	CN317	EMV5163-005R	CONNECTOR		
	CN318	EMV5163-010R	CONNECT TERMINAL		
	CN341	EWS293-0150	SOCKET WIRE ASSY		C J
	CN351	VMC0075-003	CONNECTOR		C J
	CN361	EMV5163-007R	CONNECT TERMINAL		
	CN371	EMV7163-007	CONNECT TERMINAL		
	CN601	EMV7163-005	CONNECTOR		
	CN611	EMV5163-005R	CONNECTOR		
	CN702	EWS296-0134	SOCKET WIRE ASSY		
	CN841	EMV5163-007R	CONNECT TERMINAL		

Electrical Parts List (ENB-244M)

⚠	Item	Parts Number	Description	Area
		I.C.S		
	IC401	MN173222JAAM1	I.C(MICRO-COMPUTER)	U US UT
		MN173222JAAM2	I.C.	C J
	IC402	GP1U271X	INFRARED DETECT UNIT	
	IC403	PST600E-T	I.C(MONO-ANALOG)	
		DIODES		
	D401	1SR139-200	SI.DIODE	
	D402	1SS133	SI.DIODE	
	D403	1SS133	SI.DIODE	
	D404	1SS133	SI.DIODE	
	D405	1SS133	SI.DIODE	C J
	D406	1SS133	SI.DIODE	C J
	D407	1SS133	SI.DIODE	C J
	D408	1SS133	SI.DIODE	C J
	D409	1SS133	SI.DIODE	C J
	D411	SLR-342VC3F	L.E.D.	
	D412	SLR-342MCA47	L.E.D.	
	D413	SLR-342MCA47	L.E.D.	
	D414	SLR-342MCA47	L.E.D.	
	D415	SLR-342MCA47	L.E.D.	
	D416	SLR-342MCA47	L.E.D.	
	D417	SLR-342MCA47	L.E.D.	
	D418	SLR-342MCA47	L.E.D.	
	D419	SLR-342MCA47	L.E.D.	
	D420	SLR-342MCA47	L.E.D.	
	D421	SLR-342MCA47	L.E.D.	
	D422	SLR-342MCA47	L.E.D.	
	D423	SLR-342MCA47	L.E.D.	
	D424	SLR-342MCA47	L.E.D.	
	D431	1SS133	SI.DIODE	
	D432	1SS133	SI.DIODE	
	D433	1SS133	SI.DIODE	
	D434	1SS133	SI.DIODE	
	D435	1SS133	SI.DIODE	
	D437	1SS133	SI.DIODE	U US UT
	D443	1SS133	SI.DIODE	
	D553	1SS133	SI.DIODE	
	D703	1SS133	SI.DIODE	
	D704	1SS133	SI.DIODE	
		TRANSISTORS		
	Q401	DTC114YS	DIGITAL TRANSISTOR	
	Q402	DTC114TN	DIGITAL TRANSISTOR	
	Q403	DTC144WS	DIGITAL TRANSISTOR	
	Q404	DTC114YS	DIGITAL TRANSISTOR	C J
	Q405	DTC144ES	DIGITAL TRANSISTOR	C J
	Q406	DTC114YS	DIGITAL TRANSISTOR	C J
	Q407	DTC114ES	DIGITAL TRANSISTOR	
	Q408	DTC114ES	DIGITAL TRANSISTOR	
	Q409	DTC114ES	DIGITAL TRANSISTOR	
	Q410	DTC114YS	DIGITAL TRANSISTOR	
	Q411	DTC114YS	DIGITAL TRANSISTOR	
	Q412	DTC114YS	DIGITAL TRANSISTOR	
	Q413	DTC114YS	DIGITAL TRANSISTOR	
	Q414	DTC114YS	DIGITAL TRANSISTOR	
	Q551	2SC2240(BL)	SI.TRANSISTOR	
	Q552	2SC2240(BL)	SI.TRANSISTOR	
	Q561	2SA1038(R,S)	SI.TRANSISTOR	
	Q701	2SC2240(BL)	SI.TRANSISTOR	
	Q702	2SC2240(BL)	SI.TRANSISTOR	
	Q703	2SC2240(BL)	SI.TRANSISTOR	
	Q704	2SC2240(BL)	SI.TRANSISTOR	
	Q707	2SA1038(R,S)	SI.TRANSISTOR	
	Q708	2SA1038(R,S)	SI.TRANSISTOR	
		CAPACITORS		
	C401	QETB1AM-227	220MF 10V E.CAP.	
	C402	QCZ0202-155	1.5MF 25V CER.RES.	
	C403	QEADOHZ-10AZM	AL E.CAP.	
	C404	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C405	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C410	QETB1HM-475E	4.7MF 50V E.CAP.	

⚠	Item	Parts Number	Description	Area
	C411	QETB1HM-475E	4.7MF 50V E.CAP.	
	C412	QETB1HM-475E	4.7MF 50V E.CAP.	
	C413	QETB1AM-107	100MF 10V AL E.CAP.	
	C551	QETB1HM-106	10MF 50V E.CAP.	
	C552	QCS21HJ-271A	270PF 50V CER.CAP.	
	C553	QCS21HJ-101A	100PF 50V CER.CAP.	
	C556	QCY31HK-152Z	1500PF 50V CER.CAP.	
	C557	QCS21HJ-100	10PF 50V CER.CAP.	
	C558	QETB1CM-476	47MF 16V AL E.CAP.	
	C561	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C562	QCS22HJ-330	33PF 500V CER.CAP.	
	C563	QFLB1HJ-103	0.01MF 50V MYLAR CAP.	
	C564	QETB1HM-476	47MF 50V E.CAP.	
	C701	QETB1HM-106	10MF 50V E.CAP.	
	C702	QETB1HM-106	10MF 50V E.CAP.	
	C703	QCS21HJ-271A	270PF 50V CER.CAP.	
	C704	QCS21HJ-271A	270PF 50V CER.CAP.	
	C705	QCS21HJ-101A	100PF 50V CER.CAP.	
	C706	QCS21HJ-101A	100PF 50V CER.CAP.	
	C711	QETB1CM-107	100MF 16V AL E.CAP.	
	C712	QETB1CM-107	100MF 16V AL E.CAP.	
	C713	QCS21HJ-100	10PF 50V CER.CAP.	
	C714	QCS21HJ-100	10PF 50V CER.CAP.	
	C717	QCY31HK-152Z	1500PF 50V CER.CAP.	
	C718	QCY31HK-152Z	1500PF 50V CER.CAP.	
	C721	QCS22HJ-220	22PF 500V CER.CAP.	
	C722	QCS22HJ-220	22PF 500V CER.CAP.	
	C723	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C724	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C725	QETB1HM-476	47MF 50V E.CAP.	
	C726	QETB1HM-476	47MF 50V E.CAP.	
	C727	QFLB1HJ-104	0.1MF 50V MYLAR CAP.	
	C728	QFLB1HJ-104	0.1MF 50V MYLAR CAP.	
	C739	QETB1JM-107	100MF 63V AL E.CAP.	
		RESISTORS		
	R402	QRD161J-331	330 1/6W CARBON RES.	
	R403	QRD167J-223	22K 1/6W CARBON RES.	
	R404	QRD161J-103	10K 1/6W CARBON RES.	
	R405	QRD161J-472	4.7K 1/6W CARBON RES.	
	R406	QRD161J-103	10K 1/6W CARBON RES.	C J
	R407	QRD161J-103	10K 1/6W CARBON RES.	C J
	R408	QRD161J-103	10K 1/6W CARBON RES.	
	R409	QRD161J-471	470 1/6W CARBON RES.	
	R410	QRD161J-103	10K 1/6W CARBON RES.	
	R411	QRD161J-221	220 1/6W CARBON RES.	
	R412	QRD161J-103	10K 1/6W CARBON RES.	
	R413	QRD161J-103	10K 1/6W CARBON RES.	
	R414	QRD161J-103	10K 1/6W CARBON RES.	
	R415	QRD161J-221	220 1/6W CARBON RES.	
	R416	QRD161J-221	220 1/6W CARBON RES.	
	R417	QRD161J-221	220 1/6W CARBON RES.	
	R418	QRD161J-221	220 1/6W CARBON RES.	
	R419	QRD161J-472	4.7K 1/6W CARBON RES.	
	R420	QRD161J-104	100K 1/6W CARBON RES.	
	R421	QRD161J-104	100K 1/6W CARBON RES.	
	R422	QRD161J-104	100K 1/6W CARBON RES.	
	R423	QRD161J-103	10K 1/6W CARBON RES.	
	R436	QRD161J-221	220 1/6W CARBON RES.	
	R437	QRD161J-221	220 1/6W CARBON RES.	
	R438	QRD161J-221	220 1/6W CARBON RES.	
	R439	QRD161J-221	220 1/6W CARBON RES.	
	R440	QRD161J-221	220 1/6W CARBON RES.	
	R441	QRD161J-221	220 1/6W CARBON RES.	
	R442	QRD161J-221	220 1/6W CARBON RES.	
	R443	QRD161J-221	220 1/6W CARBON RES.	
	R444	QRD161J-221	220 1/6W CARBON RES.	
	R445	QRD161J-221	220 1/6W CARBON RES.	
	R446	QRD161J-221	220 1/6W CARBON RES.	
	R447	QRD161J-221	220 1/6W CARBON RES.	
	R448	QRD161J-221	220 1/6W CARBON RES.	

Electrical Parts List (ENB-244M)

⚠	Item	Parts Number	Description		Area
	R449	QRD161J-221	220	1/6W CARBON RES.	
	R450	QRD161J-221	220	1/6W CARBON RES.	
	R451	QRD161J-221	220	1/6W CARBON RES.	
	R452	QRD161J-221	220	1/6W CARBON RES.	
	R453	QRD161J-221	220	1/6W CARBON RES.	
	R551	QRD161J-222	2.2K	1/6W CARBON RES.	
	R552	QRD161J-104	100K	1/6W CARBON RES.	
	R553	QRD161J-202	2K	1/6W CARBON RES.	
	R554	QRD161J-202	2K	1/6W CARBON RES.	
	R555	QRD161J-123	12K	1/6W CARBON RES.	
	R556	QRD161J-101	100	1/6W CARBON RES.	
	R558	QRD161J-911	910	1/6W CARBON RES.	
	R560	QRD161J-104	100K	1/6W CARBON RES.	
	R561	QRD14CJ-301SX	300	1/4W UNF. CARBON R	U US UT
		QRD14CJ-331SX	330	1/4W UNF. CARBON R	C J
	R563	QRD167J-272	2.7K	1/6W CARBON RES.	
	R564	QRD167J-272	2.7K	1/6W CARBON RES.	
	R565	QRD167J-272	2.7K	1/6W CARBON RES.	
	R566	QRD167J-272	2.7K	1/6W CARBON RES.	
⚠	R569	QRD14CJ-100SX	10	1/4W UNF. CARBON R	
⚠	R570	QRD14CJ-100SX	10	1/4W UNF. CARBON R	
	R701	QRD161J-222	2.2K	1/6W CARBON RES.	
	R702	QRD161J-222	2.2K	1/6W CARBON RES.	
	R703	QRD161J-104	100K	1/6W CARBON RES.	
	R704	QRD161J-104	100K	1/6W CARBON RES.	
	R705	QRD161J-202	2K	1/6W CARBON RES.	
	R706	QRD161J-202	2K	1/6W CARBON RES.	
	R707	QRD161J-202	2K	1/6W CARBON RES.	
	R708	QRD161J-202	2K	1/6W CARBON RES.	
	R709	QRD161J-123	12K	1/6W CARBON RES.	
	R710	QRD161J-123	12K	1/6W CARBON RES.	
	R711	QRD161J-911	910	1/6W CARBON RES.	
	R712	QRD161J-911	910	1/6W CARBON RES.	
	R713	QRD161J-104	100K	1/6W CARBON RES.	
	R714	QRD161J-104	100K	1/6W CARBON RES.	
	R717	QRD161J-101	100	1/6W CARBON RES.	
	R718	QRD161J-101	100	1/6W CARBON RES.	
	R721	QRD14CJ-301SX	300	1/4W UNF. CARBON R	U US UT
		QRD14CJ-331SX	330	1/4W UNF. CARBON R	C J
	R722	QRD14CJ-301SX	300	1/4W UNF. CARBON R	U US UT
		QRD14CJ-331SX	330	1/4W UNF. CARBON R	C J
	R727	QRD167J-272	2.7K	1/6W CARBON RES.	
	R728	QRD167J-272	2.7K	1/6W CARBON RES.	
	R729	QRD167J-272	2.7K	1/6W CARBON RES.	
	R730	QRD167J-272	2.7K	1/6W CARBON RES.	
	R731	QRD167J-272	2.7K	1/6W CARBON RES.	
	R732	QRD167J-272	2.7K	1/6W CARBON RES.	
	R733	QRD167J-272	2.7K	1/6W CARBON RES.	
	R734	QRD167J-272	2.7K	1/6W CARBON RES.	
⚠	R739	QRD14CJ-100SX	10	1/4W UNF. CARBON R	
⚠	R740	QRD14CJ-100SX	10	1/4W UNF. CARBON R	
	RA401	QRB079J-103	10K	1/10WRES.	
	RA402	QRB069J-103	10K	1/10WRES.	
		OTHERS			
		EMW10679-003A	CIR. BOARD		
	S401	ESP0001-023M	TACT SWITCH		
	S402	ESP0001-023M	TACT SWITCH		
	S403	ESP0001-023M	TACT SWITCH		
	S404	ESP0001-023M	TACT SWITCH		
	S405	ESP0001-023M	TACT SWITCH		
	S406	ESP0001-023M	TACT SWITCH		
	S407	ESP0001-023M	TACT SWITCH		
	S408	ESP0001-023M	TACT SWITCH		
	S409	ESP0001-023M	TACT SWITCH		
	S410	ESP0001-023M	TACT SWITCH		
	S411	ESP0001-023M	TACT SWITCH		
	S412	ESP0001-023M	TACT SWITCH		
	S413	ESP0001-023M	TACT SWITCH		
	S414	ESP0001-023M	TACT SWITCH		
	S415	ESP0001-023M	TACT SWITCH		

⚠	Item	Parts Number	Description	Area
	S416	ESP0001-023M	TACT SWITCH	
	X401	ECXP6R0-001ZA	CRYSTAL	
	CN314	VMC0163-021	CONNECT TERMINAL	
	CN701	EMV5163-010R	CONNECT TERMINAL	
	CN703	EMV5163-005R	CONNECTOR	
	CN712	EMV5109-006B	CONNECT TERMINAL	
	DI401	QLF0002-001	FLUORESCENT DISPLAY TUBE	
	FH001	E309106-001SM	FL HOLDER	
	FS001	E3400-444	FELT SPACER	
	FS002	E3400-444	FELT SPACER	
	FS401	E3400-431	FELT SPACER	
	FW401	EWR38D-16LS	FLAT WIRE	
	JS401	QSJ4003-E01	PUSH SWITCH	
	PW401	QWE351-13RR	VINYL WIRE	
	SP401	VYH7653-001	LEAF SPRING	

Electrical Parts List (ENA-178AM) * Only for J and C

⚠	Item	Parts Number	Description	Area
		I.C.S		
	IC102	LA1837	I.C(MONO-ANALOG)	
	IC121	LC72131	I.C(M)	
		DIODES		
	D121	1SS133	SI.DIODE	
	D123	1SS133	SI.DIODE	
	D129	1SS133	SI.DIODE	
	D130	MTZ10JC	ZENER DIODE	
		TRANSISTORS		
	Q101	2SC461	SI.TRANSISTOR	
	Q102	2SC535	SI.TRANSISTOR	
	Q103	2SC461	SI.TRANSISTOR	
	Q121	DTA124ES	DIGITAL TRANSISTOR	
	Q123	2SC2060(Q,R)	SI.TRANSISTOR	
		CAPACITORS		
	C101	QCVB1CM-103Y	0.01MF 16V CER.CAP.	
	C102	QETN1EM-107Z	100MF 25V E.CAP.	
	C103	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C104	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C105	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C107	QETN1EM-226Z	22MF 25V E.CAP.	
	C109	QETN1EM-226Z	22MF 25V E.CAP.	
	C111	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C112	QCT30CH-120Y	12PF 50V CER.CAP.	
	C117	QCSB1HK-5R6Y	5.6PF 50V CER.CAP.	
	C118	QCSB1HJ-150Y	15PF 50V CER.CAP.	
	C121	QCT30CH-180Y	18PF 50V CER.CAP.	
	C122	QCT30CH-180Y	18PF 50V CER.CAP.	
	C123	QCC21EM-473	0.047MF 25V CER.CAP.	
	C126	QCBB1HK-101Y	100PF 50V CER.CAP.	
	C128	QENB1HM-474	0.47MF 50V NP E.CAP.	
	C129	QCGB1HK-102	1000PF 50V CER.CAP.	
	C130	QETN1EM-107Z	100MF 25V E.CAP.	
	C133	QETN1EM-226Z	22MF 25V E.CAP.	
	C135	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C136	QETN1HM-105Z	1MF 50V AL E.CAP.	
	C137	QCBB1HK-681Y	680PF 50V CER.CAP.	
	C139	QFLB1HJ-333	0.033MF 50V MYLAR CAP.	
	C140	QFLB1HJ-333	0.033MF 50V MYLAR CAP.	
	C141	QCC21EM-473	0.047MF 25V CER.CAP.	
	C143	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C144	QCC21EM-473	0.047MF 25V CER.CAP.	
	C146	QETN1HM-105Z	1MF 50V AL E.CAP.	
	C147	QETN1HM-105Z	1MF 50V AL E.CAP.	
	C148	QETN1HM-474Z	0.47MF 50V AL E.CAP.	
	C149	QETN1HM-105Z	1MF 50V AL E.CAP.	
	C150	QETN1EM-226Z	22MF 25V E.CAP.	
	C156	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C157	QCC21EM-473	0.047MF 25V CER.CAP.	
	C158	QETN1EM-226Z	22MF 25V E.CAP.	
	C161	QETN1HM-105Z	1MF 50V AL E.CAP.	
	C162	QETN1HM-105Z	1MF 50V AL E.CAP.	
	C163	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C164	QCC21EM-473	0.047MF 25V CER.CAP.	
	C168	QFV81HJ-274	0.27MF 50V THIN FILM CAP.	
	C180	QETN1EM-107Z	100MF 25V E.CAP.	
	C181	QFLB1HJ-562	5600PF 50V MYLAR CAP.	
	C182	QFLB1HJ-562	5600PF 50V MYLAR CAP.	
	C183	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C184	QETN1EM-107Z	100MF 25V E.CAP.	
	C185	QETN1HM-105Z	1MF 50V AL E.CAP.	
	C186	QETN1HM-105Z	1MF 50V AL E.CAP.	
		RESISTORS		
	R102	QRD167J-332	3.3K 1/6W CARBON RES.	
	R103	QRD161J-221	220 1/6W CARBON RES.	
	R104	QRD167J-272	2.7K 1/6W CARBON RES.	
	R105	QRD161J-391	390 1/6W CARBON RES.	
	R106	QRD161J-102	1K 1/6W CARBON RES.	
	R107	QRD161J-561	560 1/6W CARBON RES.	
	R108	QRD167J-332	3.3K 1/6W CARBON RES.	

⚠	Item	Parts Number	Description	Area
	R109	QRD161J-221	220 1/6W CARBON RES.	
	R115	QRD161J-104	100K 1/6W CARBON RES.	
	R119	QRD161J-103	10K 1/6W CARBON RES.	
	R121	QRD161J-473	47K 1/6W CARBON RES.	
	R122	QRD161J-472	4.7K 1/6W CARBON RES.	
	R124	QRD161J-222	2.2K 1/6W CARBON RES.	
	R126	QRD167J-562	5.6K 1/6W CARBON RES.	
	R127	QRD167J-822	8.2K 1/6W CARBON RES.	
	R128	QRD161J-472	4.7K 1/6W CARBON RES.	
	R129	QRD161J-222	2.2K 1/6W CARBON RES.	
⚠	R130	QRD14CJ-680SX	68 1/4W UNF.CARBON R	
	R132	QRD161J-102	1K 1/6W CARBON RES.	
	R133	QRD167J-822	8.2K 1/6W CARBON RES.	
	R134	QRD161J-102	1K 1/6W CARBON RES.	
	R140	QRD161J-183	18K 1/6W CARBON RES.	
	R141	QRD161J-472	4.7K 1/6W CARBON RES.	
	R142	QRD161J-470	47 1/6W CARBON RES.	
	R143	QRD167J-562	5.6K 1/6W CARBON RES.	
	R144	QRD167J-332	3.3K 1/6W CARBON RES.	
	R145	QRD161J-103	10K 1/6W CARBON RES.	
	R146	QRD167J-332	3.3K 1/6W CARBON RES.	
	R147	QRD167J-153	15K 1/6W CARBON RES.	
	R148	QRD161J-561	560 1/6W CARBON RES.	
	R150	QRD161J-101	100 1/6W CARBON RES.	
	R157	QRD167J-682	6.8K 1/6W CARBON RES.	
	R158	QRD167J-682	6.8K 1/6W CARBON RES.	
	R161	QRD161J-102	1K 1/6W CARBON RES.	
	R162	QRD161J-102	1K 1/6W CARBON RES.	
	R163	QRD161J-472	4.7K 1/6W CARBON RES.	
	R164	QRD161J-472	4.7K 1/6W CARBON RES.	
	R181	QRD161J-102	1K 1/6W CARBON RES.	
	R182	QRD161J-103	10K 1/6W CARBON RES.	
	R183	QRD161J-103	10K 1/6W CARBON RES.	
	R184	QRD161J-103	10K 1/6W CARBON RES.	
		OTHERS		
		EMW10684-002A	PRINTED BOARD	
	L111	EQL4007-150T	INDUCTOR	
	T111	EQR7121-007	RF COIL	
	T141	QQR0613-001	I.F.TRANSFORMER	
	T142	QAX0303-001	CERAMIC FILTER	
	X121	ECX0007-200KWJ1	CRYSTAL	
	AT101	FMMB10YV-401K	ANTENNA TERMINAL	
	CF101	QAX0284-001Z	CERAMIC FILTER	
	CF102	QAX0284-001Z	CERAMIC FILTER	
	CN111	EMV5163-012R	CONNECT TERMINAL	
	FL141	EQF0101-013	LOWPASS FILTER	
	FL142	EQF0101-013	LOWPASS FILTER	
	RF101	EAF2207-001	FRONT END	

RX-3THBK

Electrical Parts List (ENA-178DM) * Only for U,US and UT

⚠	Item	Parts Number	Description	Area
		I.C.S		
	IC102	LA1837	I.C(MONO-ANALOG)	
	IC121	LC72131	I.C(M)	
		DIODES		
	D121	1SS133	SI.DIODE	
	D123	1SS133	SI.DIODE	
	D129	1SS133	SI.DIODE	
	D130	MTZ10JC	ZENER DIODE	
		TRANSISTORS		
	Q101	2SC461	SI.TRANSISTOR	
	Q102	2SC535	SI.TRANSISTOR	
	Q103	2SC461	SI.TRANSISTOR	
	Q121	DTA124ES	DIGITAL TRANSISTOR	
	Q123	2SC2060(Q,R)	SI.TRANSISTOR	
		CAPACITORS		
	C101	QCVB1CM-103Y	0.01MF 16V CER.CAP.	
	C102	QETN1EM-107Z	100MF 25V E.CAP.	
	C103	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C104	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C105	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C107	QETN1EM-226Z	22MF 25V E.CAP.	
	C109	QETN1EM-226Z	22MF 25V E.CAP.	
	C111	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C112	QCT30CH-120Y	12PF 50V CER.CAP.	
	C117	QCSB1HK-5R6Y	5.6PF 50V CER.CAP.	
	C118	QCSB1HJ-150Y	15PF 50V CER.CAP.	
	C121	QCT30CH-180Y	18PF 50V CER.CAP.	
	C122	QCT30CH-180Y	18PF 50V CER.CAP.	
	C123	QCC21EM-473	0.047MF 25V CER.CAP.	
	C126	QCBB1HK-101Y	100PF 50V CER.CAP.	
	C128	QENB1HM-474	0.47MF 50V NP E.CAP.	
	C129	QCGB1HK-102	1000PF 50V CER.CAP.	
	C130	QETN1EM-107Z	100MF 25V E.CAP.	
	C133	QETN1EM-226Z	22MF 25V E.CAP.	
	C135	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C136	QETN1HM-105Z	1MF 50V AL E.CAP.	
	C137	QCBB1HK-561Y	560PF 50V CER.CAP.	
	C139	QFLB1HJ-223	0.022MF 50V MYLAR CAP.	
	C140	QFLB1HJ-223	0.022MF 50V MYLAR CAP.	
	C141	QCC21EM-473	0.047MF 25V CER.CAP.	
	C143	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C144	QCC21EM-473	0.047MF 25V CER.CAP.	
	C146	QETN1HM-105Z	1MF 50V AL E.CAP.	
	C147	QETN1HM-105Z	1MF 50V AL E.CAP.	
	C148	QETN1HM-474Z	0.47MF 50V AL E.CAP.	
	C149	QETN1HM-105Z	1MF 50V AL E.CAP.	
	C150	QETN1EM-226Z	22MF 25V E.CAP.	
	C156	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C157	QCC21EM-473	0.047MF 25V CER.CAP.	
	C158	QETN1EM-226Z	22MF 25V E.CAP.	
	C161	QETN1HM-105Z	1MF 50V AL E.CAP.	
	C162	QETN1HM-105Z	1MF 50V AL E.CAP.	
	C163	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C164	QCC21EM-473	0.047MF 25V CER.CAP.	
	C168	QFV81HJ-274	0.27MF 50V THIN FILM CAP.	
	C180	QETN1EM-107Z	100MF 25V E.CAP.	
	C181	QFLB1HJ-562	5600PF 50V MYLAR CAP.	
	C182	QFLB1HJ-562	5600PF 50V MYLAR CAP.	
	C183	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C184	QETN1EM-107Z	100MF 25V E.CAP.	
	C185	QETN1HM-105Z	1MF 50V AL E.CAP.	
	C186	QETN1HM-105Z	1MF 50V AL E.CAP.	
		RESISTORS		
	R102	QRD167J-332	3.3K 1/6W CARBON RES.	
	R103	QRD161J-221	220 1/6W CARBON RES.	
	R104	QRD167J-272	2.7K 1/6W CARBON RES.	
	R105	QRD161J-391	390 1/6W CARBON RES.	
	R106	QRD161J-102	1K 1/6W CARBON RES.	
	R107	QRD161J-561	560 1/6W CARBON RES.	
	R108	QRD167J-332	3.3K 1/6W CARBON RES.	

⚠	Item	Parts Number	Description	Area
	R109	QRD161J-221	220 1/6W CARBON RES.	
	R115	QRD161J-104	100K 1/6W CARBON RES.	
	R119	QRD161J-103	10K 1/6W CARBON RES.	
	R121	QRD161J-473	47K 1/6W CARBON RES.	
	R122	QRD161J-472	4.7K 1/6W CARBON RES.	
	R124	QRD161J-222	2.2K 1/6W CARBON RES.	
	R126	QRD167J-562	5.6K 1/6W CARBON RES.	
	R127	QRD167J-822	8.2K 1/6W CARBON RES.	
	R128	QRD161J-472	4.7K 1/6W CARBON RES.	
	R129	QRD161J-222	2.2K 1/6W CARBON RES.	
⚠	R130	QRZ0077-680	68 1/4W FUSIBLE RES.	
	R132	QRD161J-102	1K 1/6W CARBON RES.	
	R133	QRD167J-822	8.2K 1/6W CARBON RES.	
	R134	QRD161J-102	1K 1/6W CARBON RES.	
	R140	QRD161J-183	18K 1/6W CARBON RES.	
	R141	QRD161J-472	4.7K 1/6W CARBON RES.	
	R142	QRD161J-470	47 1/6W CARBON RES.	
	R143	QRD167J-562	5.6K 1/6W CARBON RES.	
	R144	QRD167J-332	3.3K 1/6W CARBON RES.	
	R145	QRD161J-103	10K 1/6W CARBON RES.	
	R146	QRD167J-332	3.3K 1/6W CARBON RES.	
	R147	QRD161J-273	27K 1/6W CARBON RES.	
	R148	QRD161J-561	560 1/6W CARBON RES.	
	R150	QRD161J-101	100 1/6W CARBON RES.	
	R157	QRD167J-682	6.8K 1/6W CARBON RES.	
	R158	QRD167J-682	6.8K 1/6W CARBON RES.	
	R161	QRD161J-102	1K 1/6W CARBON RES.	
	R162	QRD161J-102	1K 1/6W CARBON RES.	
	R163	QRD161J-472	4.7K 1/6W CARBON RES.	
	R164	QRD161J-472	4.7K 1/6W CARBON RES.	
	R181	QRD161J-102	1K 1/6W CARBON RES.	
	R182	QRD161J-103	10K 1/6W CARBON RES.	
	R183	QRD161J-103	10K 1/6W CARBON RES.	
	R184	QRD161J-103	10K 1/6W CARBON RES.	
		OTHERS		
		EMW10684-002A	PRINTED BOARD	
	L111	EQL4007-150T	INDUCTOR	
	T111	EQR7121-007	RF COIL	
	T141	QQR0613-001	I.F.TRANSFORMER	
	T142	QAX0303-001	CERAMIC FILTER	
	X121	ECX0007-200KWJ1	CRYSTAL	
	AT101	FMMB10YV-401K	ANTENNA TERMINAL	
	CF101	QAX0285-001Z	CERAMIC FILTER	
	CF102	QAX0285-001Z	CERAMIC FILTER	
	CN111	EMV5163-012R	CONNECT TERMINAL	
	FL141	EQF0101-013	LOWPASS FILTER	
	FL142	EQF0101-013	LOWPASS FILTER	
	RF101	EAF2207-001	FRONT END	

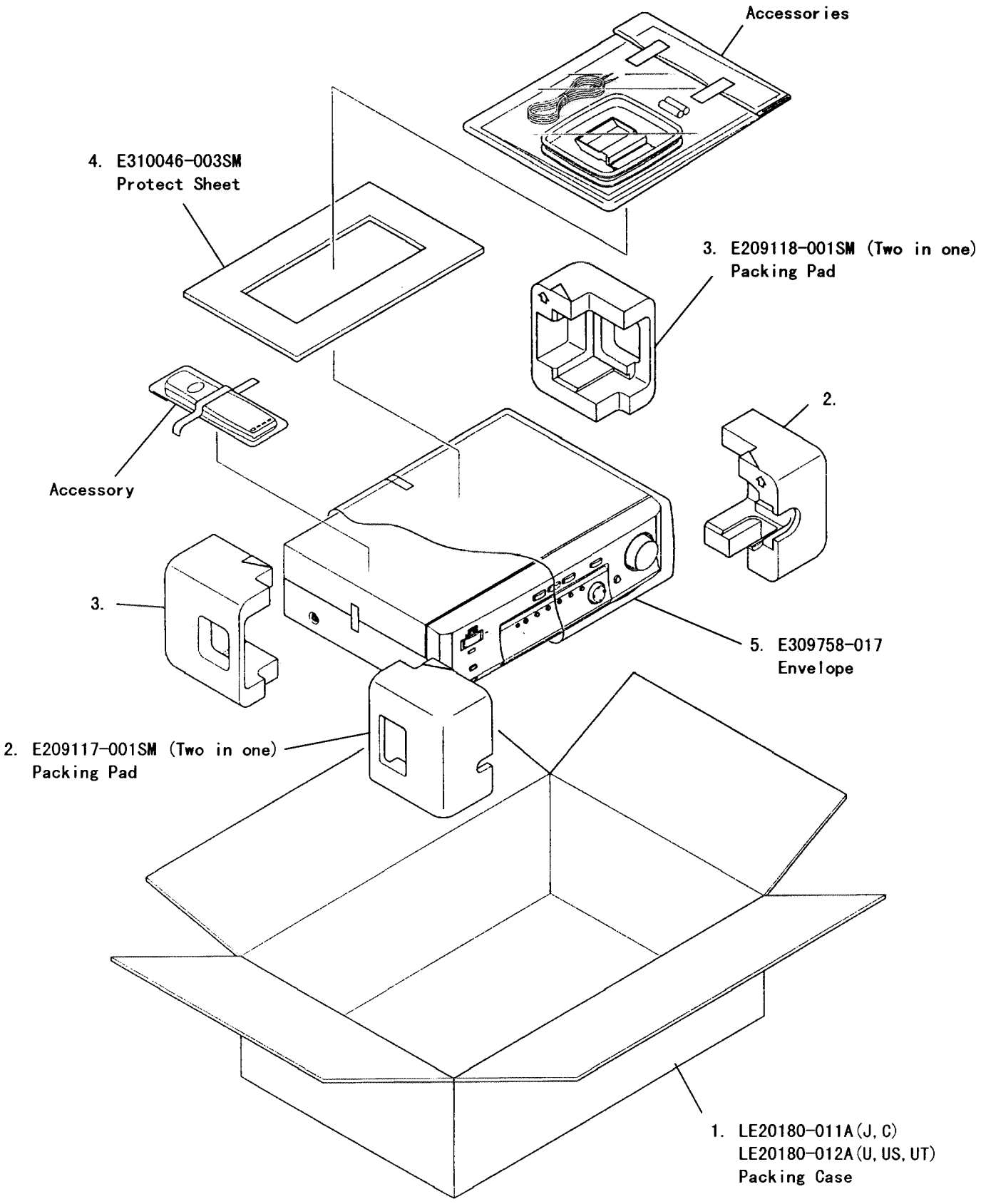
Accessories List

Block No. M2MM

⚠	Item	Parts Number	Parts Name	Q'ty	Description	Area
	1	LET0010-001B	INSTRUCTION BOOK	1		J
		LET0010-002A	INSTRUCTION BOOK	1		C
		LET0010-003A	INSTRUCTION BOOK	1		U US UT
	2	E309758-001	ENVELOPE	1		
	3	RM-SR3THU	WIRE-LESS REMOTE CONTROL	1		
	4	BT-52002-1	WARRANTY CARD	1		C
	5	BT-20071B	SERVICE NETWORK	1		C
	6	BT-51006-1	REGISTER CARD	1		J
	7	BT-20044G	SAFETY SHEET	1		J
	8	EWP201-011	ANTENNA WIRE	1		
	9	EQB4001-015	LOOP ANTENNA	1		
	10	R6PRPA-2STSA	DRY CELL	1		
⚠	11	ENZ2203-001	ADAPTOR PLUG	1		U UT
⚠	12	ENZ2202-001	SIEMENS PLUG	1		US

Packing Materials and Part Numbers

Block No. M3MM



RX-3THBK

JVC

VICTOR COMPANY OF JAPAN, LIMITED
AUDIO PRODUCT DIVISION 1644, SHIMOTURUMA, YAMATO-SHI, KANAGAWA-KEN, 242, JAPAN

(No. 20613)

Printed in Japan
9703(S)